

#1 Pleximent

CHEMISPHERE CORPORATION -- #1 PLEXIMENT -- -

===== Product Identification =====

Product ID:#1 PLEXIMENT
MSDS Date:01/31/1992
FSC:NIIN:Submitter:D DG
Status Code:A
MSDS Number: CKTBL
=== Responsible Party ===
Company Name:CHEMISPHERE CORPORATION
Address:2101 CLIFTON AVENUE
City:ST. LOUIS
State:MO
ZIP:63139
Country:US
Info Phone Num:314-644-1300
Emergency Phone Num:314-644-1300
Chemtrec Ind/Phone:(800)424-9300
CAGE:T0568
=== Contractor Identification ===
Company Name:CHEMISPHERE CORPORATION
Address:2101 CLIFTON AVENUE
Box:City:ST. LOUIS
State:MO
ZIP:63139
Country:US
Phone:314-644-1300
CAGE:T0568
Company Name:PITSCO INC
Address:1002 E ADAMS
City:PITTSBURG
State:KS
ZIP:66762
Country:US
Phone:316-231-0000
Contract Num:MDA414-98-A-0054-0006
CAGE:0FB46

===== Composition/Information on Ingredients =====

Ingred Name:DICHLOROMETHANE
CAS:75-09-2
RTECS #:PA8050000
= Wt:100.
OSHA PEL:SEE TABLE Z-2
ACGIH TLV:174 MG/M3;50 PPM
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

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===== Hazards Identification =====

LD50 LC50 Mixture:NO DATA PROVIDED BY RESPONSIBLE PARTY.

Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO

Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:YES

Health Hazards Acute and Chronic:EYES: MILDLY IRRITATING. INGESTION: IRRITATION OF THE GASTROINTESTINAL TRACT WITH VOMITING. IF VOMITING RESULTS IN ASPIRATION, CHEMICAL PNEUMONIA COULD FOLLOW. ABSORPTION THRU THE GASTROINTESTINAL TRACT MAY PRODUCE SYMPTOMS OF CENTRAL NERVOUS SYSTEM DEPRESSION RANGING FROM LIGHT-HEADEDNESS TO UNCONSCIOUS & DEATH. INHALATION :IRRITANT OF MUCOUS MEMBRANES & UPPER RESPIRATORY TRACT. CONCENTRATIONS IN SUFFICIENT TO PRODUCE UNCONSCIOUSNESS MAY PRODUCE GASTROINTESTINAL UPSET & MAY PROGRESS TO SERIOUS KIDNEY & LIVER DAMAGE. SKIN: MILDLY IRRITATING. MAY PRODUCE A BURNING SENSATION. RED, DRY, ROUGH SKIN & MAY RESULT IN DERMATITIS.

Explanation of Carcinogenicity:MANUFACTURER STATES ON THE MSDS THAT THIS PRODUCT IS A POTENTIAL CARCINOGEN. (NOTE FROM DLA-HMIS: AFTER A SEARCH, STAFF COULD NOT VERIFY THAT OSHA REGULATED THIS CHEMICAL AS A CARCINOGEN.)

Effects of Overexposure:EYES: MILDLY IRRITATING. INGESTION: IRRITATION OF THE GASTROINTESTINAL TRACT WITH VOMITING. IF VOMITING RESULTS IN ASPIRATION, CHEMICAL PNEUMONIA COULD FOLLOW. ABSORPTION THRU THE GASTROINTESTINAL TRACT MAY PRODUCE SYMPTOMS OF CENTRAL NERVOUS SYSTEM DEPRESSION RANGING FROM LIGHT-HEADEDNESS TO UNCONSCIOUS & DEATH. INHALATION :IRRITANT OF MUCOUS MEMBRANES & UPPER RESPIRATORY TRACT. CONCENTRATIONS IN SUFFICIENT TO PRODUCE UNCONSCIOUSNESS MAY PRODUCE GASTROINTESTINAL UPSET & MAY PROGRESS TO SERIOUS KIDNEY & LIVER DAMAGE. SKIN: MILDLY IRRITATING. MAY PRODUCE A BURNING SENSATION. RED, DRY, ROUGH SKIN & MAY RESULT IN DERMATITIS.

Medical Cond Aggravated by Exposure:NO DATA PROVIDED BY RESPONSIBLE PARTY.

===== First Aid Measures =====

First Aid:EYES: FLUSH WITH WATER AT LEAST 15 MIN, HOLD EYELIDS APART. SEE DR. INGEST: DO NOT INDUCE VOMIT. IF MORE THAN TRACE SWALLOW & PATIENT CONSCIOUS WASH OUT MOUTH WITH WATER & GIVE 200-300 ML (HALF PINT) WARM WATER TO DRINK. GET MED ATTN. FOLLOWING INGESTION, ABSORBENT SUCH AS ACTIVATED CHARCOAL MAY BE OF VALUE. GASTRIC LAVAGE MAY BE EFFECT WHEN PERFORMED BY DR WITHIN 4 HOURS. INHALATION: REMOVE TO FRESH AIR. IF BREATHING STOPPED GIVE MOUTH-TO-MOUTH. IF BREATHING DIFFICULT TRAINED PERSON ADMINISTER OXYGEN. SEE DR IMMED. SKIN: WASH WITH SOAP & WATER. OINTMENT MAY BE APPLIED AFTER THOROUGHLY CLEAN. SEE DR.

===== Fire Fighting Measures =====

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Flash Point:DECOMPOSES

Extinguishing Media:NO DATA PROVIDED BY RESPONSIBLE PARTY.
NON-FLAMMABLE.

Fire Fighting Procedures:NO DATA PROVIDED BY RESPONSIBLE PARTY.

Unusual Fire/Explosion Hazard:NON-FLAMMABLE, NON-EXPLOSIVE. AT HIGH TEMPERATURES, THIS PRODUCT DECOMPOSES TO GIVE OFF HYDROCHLORIC ACID PLUS OTHER TOXIC AND IRRITATING VAPORS SUCH AS PHOSGENE. IF STORAGE CONTAINERS ARE EXPOSED TO EXCESSIVE HEAT, OVER-PRESSURIZATION.

===== Accidental Release Measures =====

Spill Release Procedures:STOP LEAK. LARGE SPILLS: REMOVE WITH VACUUM TRUCK. SMALLER SPILLS: SOAK UP WITH COMPATIBLE ABSORBENT MATERIALS & PLACE IN APPROVED CONTAINER TO AWAIT PROPER TREATMENT OR DISPOSAL. SPILLS ON AREAS OTHER THAN PAVEMENT, E.G. DIRT OR SAND, MAY BE HANDLED BY REMOVING THE AFFECTED SOILS AND PLACING IN APPROVED CONTAINERS. PERSONS PERFORMING CLEANUP SHOULD WEAR ADEQUATE PROTECTIVE EQUIPMENT & CLOTHING.

Neutralizing Agent:NO DATA PROVIDED BY RESPONSIBLE PARTY.

===== Handling and Storage =====

Handling and Storage Precautions:UNDER NORMAL CONDITIONS THIS PRODUCT CAN BE STORED IN MILD STEEL WITHOUT INTERIOR LINING. ALUMINUM IS NOT RECOMMENDED FOR STORAGE AND HANDLING. DIKE STORAGE TANKS SEPARATELY TO CONTAIN THE TANK VOLUME . VENT INDOOR TANKS TO AN OUTSIDE LOCATION SO ESCAPING VAPORS WILL NOT CONTAMINATE WORK AREAS.

Other Precautions:KEEP CONTAINER TIGHTLY CLOSED AND PROPERLY SEALED. STORE CONTAINER IN A COOL, DRY VENTILATED PLACE OUT OF DIRECT SUNLIGHT.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:USE IN WELL-VENTILATED AREAS. WHERE ENGINEERING CONTROLS ARE NOT FEASIBLE, USE ADEQUATE LOCAL EXHAUST VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED WHENEVER MIST, SPRAY OR VAPOR MAY BE GENERATED. Z117.1-1977 FOR TANK AND CONFINED SPACE ENTRY.

Ventilation:USE ADEQUATE LOCAL EXHAUST VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED WHENEVER MIST, SPRAY OR VAPOR MAY BE GENERATED.

Protective Gloves:SOLVENT RESISTENT: VITON, POLYVINYL ALCOHOL OR EQUIVALENT.

Eye Protection:CHEMICAL SAFETY GOGGLES PLUS FULL FACE SHIELD.

Other Protective Equipment:STANDARD WORK CLOTHING. STANDARD WORK SHOES. EMERGENCY SHOWER AND EYEWASH FACILITIES SHOULD BE IN CLOSE

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PROXIMITY.

Work Hygienic Practices:USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING OR USING TOILET. WASH CONTAMINATED CLOTHING AND DRY BEFORE REUSE.

Supplemental Safety and Health

DISCARD SHOES THAT CANNOT BE DECONTAMINATED. STORE CONTAMINATED CLOTHING IN WELL VENTILATED CABINETS OR CLOSED CONTAINERS.

===== Physical/Chemical Properties =====

HCC:T4

Boiling Pt:=39.4C, 103.F

Spec Gravity:1.3200

Appearance and Odor:CLEAR, COLORLESS LIQUID WITH SLIGHTLY SWEET ODOR.

Percent Volatiles by Volume:100

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

ALKALI METALS, PURE OXYGEN, OPEN FLAMES AND WELDING ARCS. PRODUCT SHOULD NOT BE USED IN LONG TERM CONTACT WITH ALUMINUM OR ZINC OR THEIR ALLOYS.

Stability Condition to Avoid:AVOID OPEN FLAMES, WELDING ARCS OR OTHER HIGH TEMPERATURE SOURCES WHICH INDUCE THERMAL DECOMPOSITION.

Hazardous Decomposition Products:THERMAL DECOMPOSITION TO IRRITATING AND CORROSIVE HCL FROM SOLVENT VAPOR. STRONG UV LIGHT (ARC WELDING) CAN CAUSE SIGNIFIGANT PHOSGENE TO BE GENERATED.

===== Toxicological Information =====

Toxicological Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.

===== Ecological Information =====

Ecological:NO DATA PROVIDED BY RESPONSIBLE PARTY.

===== Disposal Considerations =====

Waste Disposal Methods:PACKAGE, STORE, TRANSPORT, AND DISPOSE OF ALL CLEANUP MATERIALS AND CONTAMINATED EQUIPMENT IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL HEALTH AND ENVIRONMENTAL REGULATIONS.

===== MSDS Transport Information =====

Transport Information:US DOT METHYLENE CHLORIDE, ORM-A, UN1593.

===== Regulatory Information =====

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SARA Title III Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.

Federal Regulatory Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.

State Regulatory Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.

===== Other Information =====

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MATERIAL SAFETY DATA SHEET

LPS® 1

Revision Date: October 7, 2013

Supersedes: September 19, 2011

Section 1 • Product and Company Identification

Product Name: LPS® 1

Part Number(s): 00116 (aerosol), 00144 (wipe), 00122, 01128, 00105, 00155, C30116 (aerosol), C00144 (wipe), C00122, C01128, C00105, C00155

Chemical Name: Petroleum Distillates

Product Use: An industrial lubricant designed to displace moisture from mechanical and electrical equipment, provide light-duty lubrication and short-term rust prevention.

Manufacturer Information: LPS Laboratories, 4647 Hugh Howell Road, Tucker, GA, USA 30084
TEL: USA & Canada: 1 800 241-8334
Outside USA and Canada: +1 770 243-8800
FAX: USA & Canada: 1 800 543-1563
Outside USA and Canada: +1 770 243-8899

Emergency Telephone Number: Chemtrec: USA & Canada: 1 800 424-9300
Outside USA and Canada: +1 703 527-3887

Website: <http://www.lpslabs.com>

Section 2 • Hazards Identification

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Emergency Overview:

Aerosol: DANGER: Flammable. Contents under pressure. Harmful or fatal if swallowed.

Bulk: DANGER: Combustible. Keep away from heat and flame. Harmful or fatal if swallowed.

Primary route(s) of entry: Skin and eye contact. Inhalation.

Potential Acute Health Effects:

Eyes: Irritating to eyes.

Skin: Repeated exposure may cause skin dryness or cracking.

Inhalation: Excessive inhalation of vapors can cause irritation of the respiratory tract, nausea, dizziness or headache.

Ingestion: Product has a low order of acute oral toxicity, but ingestion of large quantities may cause nausea, vomiting, and gastrointestinal irritation. May cause injury if aspirated into lungs.

Potential Chronic Health Effects:

Carcinogenic Effects: NTP: No IARC: No OSHA: No ACGIH: No

Mutagenic Effects: None

Teratogenic Effects: None

Target Organs: None



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Medical conditions aggravated by exposure:

Persons with pre-existing central nervous system (CNS) disease, neurological conditions, skin disorders, chronic respiratory diseases, or impaired liver or kidney function should avoid exposure.

Signs and Symptoms

Stinging in eyes. Repeated or prolonged skin contact can cause redness, irritation, and scaling of the skin (dermatitis). Breathing of high vapor concentrations may cause headaches, stupor, irritation of throat and eyes, and kidney effects.

Section 3 • Composition / Information on Ingredients

Component	CASRN	Weight Percent
Distillates (Petroleum), Hydrotreated Light	64742-47-8	70 - 80%
Distillates (Petroleum), Hydrotreated Middle	64742-46-7	20 - 30%
Carbon Dioxide (aerosol only)	124-38-9	1 - 5%

Section 4 • First Aid Measures

Eyes:	Check for and remove contact lenses. If irritation or redness develops, flush eyes with cool, clean, low pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. DO NOT use eye ointment. Seek medical attention immediately.
Skin:	Remove contaminated shoes and clothing. Clean affected area thoroughly with mild soap and water. DO NOT use ointments. Seek medical attention if irritation persists.
Inhalation:	Immediately move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). If breathing is difficult, seek medical attention immediately.
Ingestion:	DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. DO NOT leave victim unattended. Seek medical attention immediately.



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Section 5 • Fire Fighting Measures

Products of Combustion:	Carbon monoxide and carbon dioxide.		
General Fire Hazards:	High heat will cause product to boil, evolving vapor that could cause explosive rupture of closed containers. Aerosols may explode upon heating, spread fire and overcome sprinkler systems.		
Firefighting media:	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use CO2, water spray, fog or foam. Cool containing vessels with water jet in order to prevent pressure build-up, auto-ignition or explosions.		
Sensitivity to Impact:	None	Sensitivity to Static Discharge:	None
Protection Clothing (Fire):	Wear protective clothing and equipment suitable for the surrounding fire, including helmet, face mask, and self-contained breathing apparatus.		

Special Remarks on Explosion Hazards:

High heat will cause product to boil, evolving vapor that could cause explosive rupture of closed containers. Aerosols may explode upon heating, spread fire and overcome sprinkler systems.

Section 6 • Accidental Release Measures

Containment Procedures:	Small Spill and Leak:	Absorb with an inert material and dispose of properly.
	Large Spill and Leak:	Secure the area and control access. Dike far ahead of a liquid spill to ensure complete collection. Pick up free liquid for disposal using absorbent pads, sand, or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal.
Clean-Up Procedures:	Contain and recover spilled material when possible.	
Evacuation Procedures:	Ventilate area of leak or spill. Keep unnecessary and unprotected people away.	
Special Procedures:	Remove all sources of ignition. Ventilate area. Wear personal protective equipment during cleanup.	

Section 7 • Handling and Storage

Handling:	DO NOT spray into or around ignition sources. DO NOT allow material to come in contact with eyes or skin. Wear appropriate protective equipment during handling. Keep container closed. Avoid breathing vapors or mists. Use only with adequate ventilation. Wash thoroughly after handling.
Storage:	Keep container in a cool, well-ventilated area. Avoid all sources of ignition (spark or flame). Store between 40°F and 120°F (4.4°C and 49°C).

Precautions to be taken in handling and storage:

Store aerosols as Level 3 Aerosol (NFPA 30B). Store all materials in a dry, well-ventilated area. Avoid breathing vapors.



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Section 8 • Exposure Controls / Personal Protection

Exposure Guidelines:

Component	CASRN	OSHA	ACGIH	NIOSH	Supplier
Distillates (Petroleum), Hydrotreated Light	64742-47-8	5 mg/m3 (oil mist) PEL	5 mg/m3 (oil mist) TLV 10 mg/m3 (oil mist) STEL	5 mg/m3 (oil mist) TWA 10 mg/m3 (oil mist) STEL	100 ppm TWA 525 mg/m3 TWA
Distillates (Petroleum), Hydrotreated Middle	64742-46-7	5 mg/m3 (oil mist) PEL	5 mg/m3 (oil mist) TLV 10 mg/m3 (oil mist) STEL	5 mg/m3 (oil mist) TWA 10 mg/m3 (oil mist) STEL	None reported
Carbon Dioxide (aerosol only)	124-38-9	5000 ppm PEL	5000 ppm TLV 30000 ppm STEL	5000 ppm TWA 30000 ppm STEL	None reported

Engineering Controls: Provide general and/or local exhaust ventilation to keep exposures below the exposure guidelines listed above.

Personal protective equipment

Eye protection: Safety glasses with side shields conforming to appropriate regulations. Eye wash fountain and emergency shower facilities are recommended.

Hand protection: Normally no hand protection is required; however, if product will be sprayed for an extended period, "overspray" onto skin may occur. If so, wear chemical resistant gloves conforming to appropriate regulations. Please observe the instructions regarding permeability and breakthrough time that are provided by the supplier of the gloves.

Respiratory protection: Typical use of this product under normal conditions does not require the use of respiratory protection. If airborne concentrations are above the applicable exposure limits (listed above), use NIOSH approved respiratory protection (i.e. organic vapor cartridge).

General Hygiene Considerations: Wash thoroughly after handling. Have eye-wash facilities immediately available.



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Section 9 • Physical and Chemical Properties

Appearance:	Liquid	Color:	Pale amber
Odor:	Characteristic	Evaporation Rate:	< 0.1 (BuAc = 1)
Solubility Description:	Not soluble in water	Flash Point:	79°C (175°F) - dispensed liquid
Boiling Point:	213°C (415°F)	Flash Point Method:	Tag-Closed Cup
Specific Gravity (H₂O=1):	0.79 - 0.81 @ 20°C	Decomposition Temperature:	Not established
Vapor Density (air = 1):	> 1	Auto ignition temperature:	> 228°C (442°F)
Vapor Pressure:	< 0.05 mm Hg @ 20°C	Flammable limits (estimated):	LOWER: 0.6% UPPER: 7.0%
Rule 1171 PPc:	Not applicable	Partition Coefficient (octanol/water):	< 1
V.O.C. Content:	Aerosol: 0.4% per US State & Federal Consumer Product Regulations Bulk: 0.4% per US State & Federal Consumer Product Regulations	Odor Threshold:	Not established
Melting Point:	< -50°C (-58°F)	Viscosity:	< 3.8 cSt @ 25°C
pH:	Not applicable	Volatiles:	95 - 96%
Heat of combustion:	Aerosol: Not established Bulk: Not established		

Section 10 • Stability and Reactivity

Chemical Stability:	Product is stable under recommended storage conditions.
Conditions to Avoid:	Keep away from heat and ignition sources.
Incompatibility:	Reactive or incompatible with oxidizing agents.
Hazardous Decomposition:	Combustion will generate smoke, possibly thick and choking, resulting in zero visibility and combustion products include carbon monoxide and carbon dioxide.
Hazardous Polymerization:	Will not occur.



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Section 11 • Toxicological Information

Acute and Chronic Toxicity

A: General Product Information

An acute toxicity study of this product has not been conducted. Information given in this section relates only to individual constituents contained in this preparation.

B: Component Analysis

Component	CASRN	LC-50	LD-50
Distillates (Petroleum), Hydrotreated Light	64742-47-8	> 6.8 mg/L *	> 5 g/kg*
Distillates (Petroleum), Hydrotreated Middle	64742-46-7	Not established	Not established
Carbon Dioxide (aerosol only)	124-38-9	470000 ppm / rat / 30 minutes	Not appropriate

* Supplier Data

Section 12 • Ecological Information

Mobility: Semi-volatile. Readily absorbed into soil. **Persistence / Degradability:** Only slightly biodegradable

Bioaccumulative potential: No bioaccumulation potential **Other adverse effects:** None known

Ecological studies have not been conducted for this product. The following information is available for component(s) of this product.

Ecotoxicity

Effects on Organisms	Component	CASRN	Test	Species	Results
Acute Toxicity on Fishes	Distillates (Petroleum), Hydrotreated Light	64742-47-8	96-hr LC50	Oncorhynchus Mykiss	3,200 µg/L *
Acute Toxicity on Daphnia	No data available				
Bacterial Inhibition					
Growth inhibition of algae					
Bioaccumulation in fish					

* Supplier Data

For the 64742-47-8 component, no toxicity has been observed in water due to extremely low water solubility. However, hydrocarbon and petroleum distillates are potentially toxic to freshwater and saltwater ecosystems. If material is spilled on soil, some potential toxic effects could occur before biodegradation could remove material.

If spilled, the 64742-46-7 constituent may kill grasses and small plants by interfering with transpiration. Spilled material may coat gill structures of fish resulting in suffocation if spilled in shallow, running water. This product may be toxic to amphibians by preventing dermal respiration. This product may also cause gastrointestinal distress to birds and mammals through ingestion. Biodegradation of this product is possible within 90 to 120 days in aerobic environments at temperatures above 21°C.



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Section 13 • Disposal Considerations

Waste Status: In its purchased form, non-aerosol material does not meet the definition of a RCRA hazardous waste. Aerosol products, if depressurized and emptied to less than 1 inch (2.54 cm) of fluid contents are classified as non-hazardous waste under 40 CFR 261.7 (U.S.). However, if disposed of in its received form, an aerosol carries the waste code D003. (U.S.).

Disposal: Waste must be disposed of in accordance with any and all applicable environmental control rules and/or regulations.

Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information inaccurate, incomplete, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive than federal laws and regulations.

Section 14 • Transport Information

Aerosol

D.O.T. Ground	Shipping Name:	Aerosols, flammable	UN No.:	1950
	Hazard Class:	2.1	Technical Name:	NA
	Subclass:	NA	Hazard Label:	LTD QTY Already on box
	Packing Group:	NA		
Road/Rail - ADR/RID	UN No.:	1950	ADR Class:	2
	Packing Group:	NA	Classification Code:	5F
	Name and description:	AEROSOLS, flammable	Hazard ID No.:	NA
	Labeling:	2.1	Technical Name:	NA
IMDG-IMO	UN No.:	1950	Class:	2
	Shipping Name:	Aerosols	Subsidiary Risk:	2.1
	Labeling:	NA	Packing Group:	NA
	Packing Instructions:	P003, LP02	EmS:	F-D, S-U
IATA - ICAO:	Marine pollutant:	No	Technical Name:	NA
	UN No.:	1950	Class:	2.1
	Shipping Name:	Aerosols, flammable	Subclass:	NA
	Packing Instructions:	203, Y203 (Ltd. Qty.)	Packing Group:	NA
	Labeling:	Flammable Gas	Technical Name:	NA

Non-aerosol versions of this product are not regulated by any mode of transportation.

The preceding information is subject to change and must be verified prior to shipment. It is the responsibility of anyone offering hazardous materials for shipment to ensure compliance with all applicable regulations.



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Section 15 • Regulatory Information

U.S. Federal Regulations

RCRA Hazardous Waste No.: D003 (aerosol only)

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA):
None

Toxic Substances Control Act (TSCA):
All components of this product are TSCA inventory listed and/or are exempt.

Superfund Amendments and Reauthorization Act (SARA) Title III SARA Section 311/312 (40 CFR 370) Hazard Categories:
Sudden Release of Pressure (aerosols only), Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372):
No individual section 313 component is present at or above 1%.

Section 112 Hazardous Air Pollutants (HAPs): None

State Regulations

California: This product does not contain chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm.

California and OTC States: This product conforms to consumer product regulations.

New Jersey Right to Know:

Aerosol: Distillates (Petroleum), Hydrotreated Light 64742-47-8 • Distillates (Petroleum), Hydrotreated Middle 64742-46-7 • Carbon Dioxide 124-38-9 • Calcium Sulfonate 61789-86-4 • Sorbitan Trioleate 26266-58-0

Bulk: Distillates (Petroleum), Hydrotreated Light 64742-47-8 • Distillates (Petroleum), Hydrotreated Middle 64742-46-7 • Calcium Sulfonate 61789-86-4 • Sorbitan Trioleate 26266-58-0 • C18 Unsaturated Dimer Fatty Acids 61788-89-4

International Regulations

Canadian Environmental Protection Act (CEPA):

All of the components of this product are included on the Canadian Domestic Substances list (DSL).

Canadian Workplace Hazardous Materials Information System WHMIS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification:

Aerosol: Class A, Class B5, Class D2B



WHMIS Classification:

Bulk: Class B3, Class D2B



Other Regulations:

Montreal Protocol listed ingredients:

Stockholm Convention listed ingredients:

Rotterdam Convention listed ingredients:

RoHS Compliant:

None

None

None

Yes




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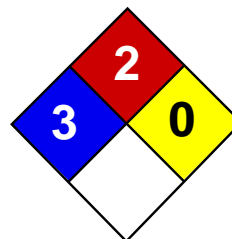
Section 16 • Other Information

MSDS#: 10116 MSDS Preparation Responsible Name: Elena Badiuzzi Compliance Manager Telephone: +1 770 243-8800	HMIS 1996	HMIS III	Health		Reactivity
	Health: 1	Health: [] 1			
	Flammability: 2	Flammability Aerosol: 4 Flammability Bulk: 2			
	Reactivity: 0	Physical Hazard Aerosol: 2 Physical Hazard Bulk: 0			

Notice to Reader:

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Elena Badiuzzi, Compliance Manager
LPS Laboratories, a division of Illinois Tool Works



Health	3
Fire	2
Reactivity	0
Personal Protection	J

Material Safety Data Sheet

1,6-hexanediamine MSDS

Section 1: Chemical Product and Company Identification

Product Name: 1,6-hexanediamine

Catalog Codes: SLH2881

CAS#: 124-09-4

RTECS: MO1180000

TSCA: TSCA 8(b) inventory: 1,6-hexanediamine

CI#: Not available.

Synonym: Hexamethylenediamine

Chemical Formula: C₆H₁₆N₂

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
{1,6-}hexanediamine	124-09-4	100

Toxicological Data on Ingredients: 1,6-hexanediamine: ORAL (LD50): Acute: 750 mg/kg [Rat]. DERMAL (LD50): Acute: 1110 mg/kg [Rabbit].

Section 3: Hazards Identification

Potential Acute Health Effects:

Extremely hazardous in case of skin contact (irritant), of eye contact (irritant). Very hazardous in case of skin contact (corrosive). Hazardous in case of skin contact (sensitizer), of inhalation. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

Extremely hazardous in case of skin contact (irritant), of eye contact (irritant). Very hazardous in case of skin contact (corrosive). Hazardous in case of skin contact (sensitizer), of inhalation. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to blood, kidneys, lungs, liver. Repeated or prolonged exposure to the substance can

produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:

If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands : Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: 285°C (545°F)

Flash Points: CLOSED CUP: 81.1°C (178°F).

Flammable Limits: LOWER: 0.7% UPPER: 6.3%

Products of Combustion: These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...).

Fire Hazards in Presence of Various Substances: Not available.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Material in powder form, capable of creating a dust explosion.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:

Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

Section 7: Handling and Storage

Precautions:

Keep container dry. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage:

Keep container dry. Keep in a cool place. Ground all equipment containing material. Corrosive materials should be stored in a separate safety storage cabinet or room.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid.

Odor: Not available.

Taste: Not available.

Molecular Weight: 116.21 g/mole

Color: Not available.

pH (1% soln/water): Not available.

Boiling Point: 204°C (399.2°F)

Melting Point: 42°C (107.6°F)

Critical Temperature: Not available.

Specific Gravity: 0.8477 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: 4 (Air = 1)

Volatility: 100% (v/v).

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Easily soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Not available.

Corrosivity: Not available.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Eye contact. Inhalation.

Toxicity to Animals:
Acute oral toxicity (LD50): 750 mg/kg [Rat]. Acute dermal toxicity (LD50): 1110 mg/kg [Rabbit].

Chronic Effects on Humans: The substance is toxic to blood, kidneys, lungs, liver.

Other Toxic Effects on Humans:
Extremely hazardous in case of skin contact (irritant). Very hazardous in case of skin contact (corrosive). Hazardous in case of skin contact (sensitizer), of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: CLASS 8: Corrosive solid.

Identification: : Hexamethylenediamine : UN2280 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

Massachusetts RTK: 1,6-hexanediamine TSCA 8(b) inventory: 1,6-hexanediamine

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada): CLASS E: Corrosive solid.

DSCL (EEC):

R21/22- Harmful in contact with skin and if swallowed. R34- Causes burns. R43- May cause sensitization by skin contact.

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 2

Reactivity: 0

Personal Protection: j

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 2

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/09/2005 05:43 PM

Last Updated: 05/21/2013 12:00 PM

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MSDS Number: **P1784** * * * * * Effective Date: **02/26/07** * * * * * Supersedes: **07/07/04**



From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865



All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300
National Response in Canada
CANUTEC: 613-996-6666
Outside U.S. And Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

1,10-PHENANTHROLINE MONOHYDRATE

1. Product Identification

Synonyms: Orthophenanthroline monohydrate; 4,5-Diazaphenanthrene monohydrate
CAS No.: 66-71-7 (Anhydrous) 5144-89-8 (Monohydrate)
Molecular Weight: 198.22
Chemical Formula: C₁₂H₈N₂.H₂O
Product Codes: T170

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
1,10-Phenanthroline	66-71-7	90 - 100%	Yes

3. Hazards Identification

Emergency Overview

WARNING! MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate
Flammability Rating: 1 - Slight
Reactivity Rating: 1 - Slight
Contact Rating: 2 - Moderate (Life)
Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES
Storage Color Code: Green (General Storage)

Potential Health Effects

Inhalation:

No information found, but compound should be handled as a potential health hazard. May cause irritation to the respiratory tract. Symptoms may include coughing, sore throat, labored breathing, and chest pain.

Ingestion:

No information found, but compound should be handled as a potential health hazard. May cause irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

Skin Contact:

No information found, but compound should be handled as a potential health hazard. May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects.

Eye Contact:

No information found, but compound should be handled as a potential health hazard. May cause irritation, redness and pain.

Chronic Exposure:

No information found, but compound should be handled as a potential chronic health hazard.

Aggravation of Pre-existing Conditions:

No information found.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms occur.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Explosion:

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Isolate from oxidizing materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White powder.

Odor:

Slight odor

Solubility:

Soluble in 300 parts water.

Density:

No information found.

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

No information found.

Melting Point:

93 - 94C (199 - 201F) Becomes anhydrous @ 117C (242F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity**Stability:**

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong oxidizers.

Conditions to Avoid:

No information found.

11. Toxicological Information**Toxicological Data:**

Anhydrous: Investigated as a mutagen, reproductive effector. Hydrate: Investigated as a mutagen.

Reproductive Toxicity:

It was teratogenic in a single study in mice. Its reproductive hazard in humans is unknown.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
1,10-Phenanthroline (66-71-7)	No	No	None

12. Ecological Information**Environmental Fate:**

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
1,10-Phenanthroline (66-71-7)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	--Canada--			
	Korea	DSL	NDSL	Phil.
1,10-Phenanthroline (66-71-7)	Yes	Yes	No	No

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
1,10-Phenanthroline (66-71-7)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----				
Ingredient	CERCLA	-RCRA-		-TSCA-
		261.33	8 (d)	
1,10-Phenanthroline (66-71-7)	No	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
 Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 2 Flammability: 1 Reactivity: 0

Label Hazard Warning:

WARNING! MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

Label Precautions:

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Use with adequate ventilation.

Wash thoroughly after handling.

Keep container closed.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, give large amounts of water to drink. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 3.

Disclaimer:

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Prepared by: Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 181.00

Revision Date: January 27, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

n-Butyl Alcohol

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 3). Flammable liquid and vapor (H226). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin corrosion or irritation (Category 2). Causes skin irritation (H315).

Hazard class: Serious eye damage or irritation (Category 1). Causes serious eye damage (H318).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335).

Hazard class: Specific target organ toxicity, single exposure; Narcotic effects (Category 3). May cause drowsiness or dizziness (H336). Avoid breathing mist, vapors or spray (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
n-Butyl alcohol	71-36-3	CH ₃ (CH ₂) ₂ CH ₂ OH	74.12	
Synonyms: 1-Butanol; n-Butanol				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338).

If on skin (or hair): Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P302+P301+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Class 1C flammable liquid.

Flash point: 37 °C Flammable limits: Lower: 1.4% Upper: 11.2% Autoignition Temperature: 343 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA CODE

H-2

F-3

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain the spill with sand or other inert absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #2. Store with alcohols, glycols, amines and amides. Store in a dedicated flammables cabinet. If a flammables cabinet is not available, store in Flinn Saf-Stor™ can. Keep container tightly closed (P233). Keep cool (P235). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: PEL 100 ppm (OSHA) TLV 20 ppm (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear colorless liquid. Wine-like odor.

Soluble: Water (20%). Miscible with alcohol and ether.

Boiling point: 117.7 °C

Melting point: -89 °C

Refractive index: 1.3988

Specific gravity: 0.81

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with aluminum, chromium trioxide, and oxidizing materials.

Shelf life: Fair, substance may oxidize. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Absorbed through skin. Eye, skin, respiratory tract irritation. Dizziness. CNS depression.

Chronic effects: N.A.

Target organs: Eyes, skin, respiratory system, central nervous system.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

ORL-RAT LD₅₀: 790 mg/kg

IHL-RAT LC₅₀: 8000 ppm/4H

SKN-RBT LD₅₀: 3400 mg/kg

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #18b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Butanols. Hazard class: 3, Flammable liquid. UN number: UN1120.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-751-6), RCRA code U031.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: January 27, 2015

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 559.00

Revision Date: March 27, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1-Octadecanol

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin corrosion or irritation (Category 3). Causes mild skin irritation (H316).

Hazard class: Serious eye damage or irritation (Category 2B). Causes eye irritation (H320).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
1-Octadecanol	112-92-5	$\text{CH}_3(\text{CH}_2)_{16}\text{OH}$	270.48	
Synonym: Stearyl alcohol				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water. **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Combustible solid.

Flash Point : 170 °C Autoignition temperature: 450 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #2. Store with alcohols, glycols, amines and amides.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves and eye protection. Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Unctuous (greasy), white flakes or granules. Faint odor of soap.

Soluble: Many common solvents. Insoluble in water.

Boiling point: 335 °C

Melting point: 57.9 °C

Specific gravity: 0.8124

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Skin and eye irritant.

Chronic effects: N.A.

Target organs: Skin and eyes.

ORL-RAT LD₅₀: 20g/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #18b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 27, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 661.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

n-Propyl Alcohol

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 2). Highly flammable liquid and vapor (H225). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin corrosion or irritation (Category 3). Causes mild skin irritation (H316).

Hazard class: Serious eye damage or irritation (Category 1). Causes serious eye damage (H318).

Hazard class: Acute toxicity, inhalation (Category 5). May be harmful if inhaled (H333).

Hazard class: Specific target organ toxicity, single exposure; Narcotic effects (Category 3). May cause drowsiness or dizziness (H336).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
n-Propyl Alcohol	71-23-8	CH ₃ CH ₂ CH ₂ OH	60.10	
Synonyms: 1-Propanol; n-Propanol				

SECTION 4 — FIRST AID MEASURES

Call POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If on skin (or hair):** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Class 1C flammable liquid.

Flash point: 23 °C Flammable limits: Lower: 2.2% Upper: 13.7% Autoignition Temperature: 412 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA CODE

H-1

F-3

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain spill with sand or other inert absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #2. Store with alcohols, glycols, amines and amides. Store in a dedicated flammables cabinet. If a flammables cabinet is not available, store in Flinn Saf-Stor™ can. Use only in a hood or well-ventilated area (P271). Keep container tightly closed (P233). Keep cool (P235). Ground or bond container and receiving equipment (P240). Use explosion-proof electrical and ventilating equipment (P241).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling. Use only in a hood or well-ventilated area (P271).

Exposure guidelines: PEL 200 ppm (OSHA); TLV 100 ppm (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless liquid. Odor similar to ethyl alcohol

Soluble: Water and alcohol

Boiling point: 97 °C

Melting point: -88 °C

Specific gravity: 0.804

Vapor density: 2.1

Vapor pressure: 14.9 mmHg

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with oxidizers, acid chlorides, acid anhydrides, acids, halogens and aluminum.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Harmful liquid and fumes, severe eye irritant, nausea, headache, and vomiting.

Chronic effects: N.A.

Target organs: Nerves, liver

ORL-RAT LD₅₀: 1870 mg/kg

IHL-MUS LC₅₀: 48 g/m³

SKN-RBT LD₅₀: 5040 mg/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #18b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: n-Propanol. Hazard class: 3, Flammable liquid. UN number: UN1274.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-746-9), RCRA code D001.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 25, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 303.00

Revision Date: January 16, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

2,6-Dichloroindophenol

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
2,6-dichloroindophenol, sodium salt	620-45-1	$\text{NaOC}_6\text{H}_4\text{N}:\text{C}_6\text{H}_2(\text{Cl}_2) : \text{O}$	290.09	
Synonyms: Tillman's reagent; DCIP; DCPIP; DPIP				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #8. Store with phenols and cresols.
Solutions of this indicator have a poor shelf life - make a fresh solution for best results.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Dark green to black powder. Odor of throat lozenge.
Soluble: Water and alcohol

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers.
Shelf life: Poor, hygroscopic. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.	ORL-RAT LD ₅₀ : N.A.
Chronic effects: N.A.	IHL-RAT LC ₅₀ : N.A.
Target organs: N.A.	SKN-RBT LD ₅₀ : N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #5 is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (210-640-4).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: January 16, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 310.75

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

2,6-Di-tert-Butyl-4-Methylphenol

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
2,6-Di-tert-butyl-4-methylphenol	128-37-0	$((\text{CH}_3)_3\text{C})_2\text{C}_6\text{H}_2$ $(\text{CH}_3)\text{OH}$	220.36	
Synonyms: Di-tert-butyl-p-cresol; BHT; Butylated hydroxytoluene; DBPC; 2,6-Bis(1,1-dimethylethyl)-4-methylphenol				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P302+P301+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Class IIIB combustible solid.

Flash point: 127 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

H-2

F-1

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #8. Store with phenols and cresols.
Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).
Exposure guidelines: TLV (inhalable fraction and vapor) 2 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White crystals. Odorless.

Boiling point: 265 °C

Melting point: 69 - 71 °C

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with acid chlorides, acid anhydrides, oxidizers, and bases. Corrodes steel, brass, copper, and copper alloys.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant, nausea, dizziness, headache.

ORL-RAT LD₅₀: 890 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #24a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (204-881-4).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 25, 2014

BERKEBILE OIL COMPANY INC -- BERKEBILE 2+2 DOT 3 BRAKE FLUID B14055 -- 9150-00F056189

MSDS Safety Information

FSC: 9150
 MSDS Date: 03/12/1996
 MSDS Num: CHPMC
 LIIN: 00F056189
 Tech Review: 05/18/1998
 Product ID: BERKEBILE 2+2 DOT 3 BRAKE FLUID B14055
 Responsible Party
 Cage: FO088
 Name: BERKEBILE OIL COMPANY INC
 Box: 715
 City: SOMERSET PA 15501-0715 US
 Info Phone Number: 814-443-1656
 Emergency Phone Number: 814-443-1656

Preparer Co. when other than Responsible Party Co.

Cage: FO088
 Assigned Ind: Y
 Name: BERKEBILE OIL COMPANY, INC.
 Box: 715
 City: SOMERSET PA 15501-0175

Contractor Summary

Cage: FO088
 Name: BERKEBILE OIL COMPANY, INC.
 Box: 715
 City: SOMERSET PA 15501-0175 US
 Phone: 814-443-1656
 Cage: 58011
 Name: BERKEBILE OIL INC THE
 Box: 715
 City: SOMERSET PA 15501-0175 US
 Phone: 814-443-1656

Ingredients

Name: OXIDATION INHIBITOR

Name: GLYCOL ETHERS

Name: POLYGLYCOLS

Name: CORROSION INHIBITOR

Health Hazards Data

LD50 LC50 Mixture: ORAL L50(RAT): >2000 MG/KG
 Route Of Entry Inds - Inhalation: YES
 Skin: YES
 Ingestion: YES
 Carcinogenicity Inds - NTP: NO
 IARC: NO
 OSHA: NO
 Effects of Exposure: EYES: MODERATE IRRITATION/CORNEAL INJURY. SKIN:
 PROLONGED/REPEATED EXPOSURE MAY CAUSE IRRITATION, MORE SEVERE IF SKIN IS
 ABRADED. INGESTION: LOW TOXICITY. LARGE AMOUNTS MAY CAUSE INJURY. MAY

CAUSE LET HARGY.

Explanation Of Carcinogenicity: NONE

Signs And Symptoms Of Overexposure: IRRITATION, NAUSEA

First Aid: EYES: IRRIGATE W/FLOWING WATER IMMEDIATELY & CONTINUOUSLY FOR 15 MINS. SKIN: WASH OFF IN FLOWING WATER/SHOWER. INHALATION: REMOVE TO FRESH AIR. INGESTION: INDUCE VOMITING. OBTAIN MEDICAL ATTENTION IN ALL CASES. NOTE TO PHYSICIAN: SUPPORTIVE CARE. TREATMENT BASED ON JUDGEMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATIENT.

Handling and Disposal

Spill Release Procedures: KEEP OUT OF SEWERS, STORM DRAINS, SURFACE WATERS & SOIL. DON'T ALLOW TO CONTAMINATE GROUND WATER. SOAK UP W/SUITABLE ABSORBENT MATERIAL & SWEEP/SCOOP UP. DON'T DUMP INTO ANY SEWERS, ON THE GROUND/INTO ANY BODY OF WATER.

Waste Disposal Methods: SEND TO A LICENSED RECYCLER, RECLAIMER/INCINERATOR. DISPOSE OF IN ACCORDANCE W/LOCAL, STATE & FEDERAL REGULATIONS.

Handling And Storage Precautions: PROVIDE SUITABLE TRAINING TO THOSE WORKING W/BRAKE FLUID.

Other Precautions: PRACTICE REASONABLE CARE & PERSONAL CLEANLINESS. ORGANIC LIQUIDS ON HOT FIBROUS INSULATION MAY LEAD TO LOWERING OF THE AUTOIGNITION TEMPERATURE POSSIBLE RESULTING IN SPONTANEOUS COMBUSTION.

Fire and Explosion Hazard Information

Flash Point Method: PMCC

Flash Point Text: 272F

Extinguishing Media: WATER FOG, FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL

Fire Fighting Procedures: LARGE: USE ALCOHOL RESISTANT FOAMS. WATER MAY BE USED TO FLUSH TO NON-FLAMMABLE MIXTURES. CONTAIN RUNOFF WATER. WEAR POSITIVE-PRESSURE SCBA & PROTECTIVE GEAR.

Unusual Fire/Explosion Hazard: DIRECT WATER STREAM MAY CAUSE VIOLENT FROTHING, BUT FIRE WATER SPRAY MAY HELP CONTROL SITUATION. WHEN USING WATERSPRAY, PRODUCT TEMP MAY BOIL OVER AT BOILING PT

Control Measures

Respiratory Protection: WHEN AIRBORNE EXPOSURE GUIDELINES/COMFORT LEVELS MAY BE EXCEEDED, USE AN APPROVED AIR PURIFYING RESPIRATOR.

Ventilation: GOOD GENERAL VENTILATION SHOULD BE SUFFICIENT FOR MOST CONDITIONS.

Protective Gloves: IMPERVIOUS

Eye Protection: CHEMICAL GOGGLES

Other Protective Equipment: CLEAN BODY COVERING CLOTHING

Work Hygienic Practices: REMOVE/LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. WASH W/SOAP & WATER BEFORE EATING/DRINKING/USING TOILET FACILITIES.

Physical/Chemical Properties

B.P. Text: >430F

Vapor Pres: LOW

Spec Gravity: 1.03

Solubility in Water: COMPLETE

Reactivity Data

Stability Indicator: YES

Materials To Avoid: STRONG OXIDIZING MATERIAL

Hazardous Decomposition Products: CO2, CO & WATER. UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

Hazardous Polymerization Indicator: NO

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Toxicological Information

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Ecological Information

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MSDS Transport Information

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Regulatory Information

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Other Information

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HAZCOM Label

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Product ID: BERKEBILE 2+2 DOT 3 BRAKE FLUID B14055

Cage: FO088

Company Name: BERKEBILE OIL COMPANY, INC.

PO Box: 715

City: SOMERSET PA

Zipcode: 15501-0175 US

Health Emergency Phone: 814-443-1656

Date Of Label Review: 10/12/1999

Hazard And Precautions: EYES: MODERATE IRRITATION/CORNEAL INJURY. SKIN:
 PROLONGED/REPEATED EXPOSURE MAY CAUSE IRRITATION, MORE SEVERE IF SKIN IS
 ABRADED. INGESTION: LOW TOXICITY. LARGE AMOUNTS MAY CAUSE INJURY. MAY
 CAUSE LET HARGY.

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 seek competent professional advice to verify and assume responsibility
 for the suitability of this information to their particular situation
 regardless of similarity to a corresponding Department of Defense or
 other government situation.

THE BERKEBILE OIL COMPANY, INC.

MATERIAL DATA SAFETY SHEET

1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY.

COMMERICAL DESIGNATION: **BERKEBILE 2+2[®] POWER STEERING FLUID**
STOCK NUMBER (S): B1500, B1501, B1502, B150055

MANUFACTURE'S NAME: The Berkebile Oil Company, Inc.
ADDRESS: P.O. Box 715, Somerset, PA 15501-0715
PHONE: 814-445-2730
FAX: 814-443-2873
EMERGENCY PHONE: 814-443-1656 or CHEMTREC 1-800-424-9300
REVISION DATE: January 28, 2004
NAME OF PREPARER: Patricia K. Berkebile Mellen

2. COMPOSITION/INFORMATION ON INGREDIENTS.

PRODUCT DESCRIPTION:

Liquid. Petroleum Odor

HAZARDOUS INGREDIENT

COMPONENT	CAS #	% (WT)
Aliphatic Petroleum Distillates	64742-65-0	87.0—97.0

NFPA Ratings:

Health: 1

Flammability: 1

Reactivity: 0

3. HAZARD IDENTIFICATION.

Under normal conditions and use, this product should present no significant health hazards.

The health effects noted below are consistent with requirements under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

EYE CONTACT: Unlikely to cause eye irritation or injury.

SKIN ABSORPTION: May cause mild skin irritation. Prolonged or repeated contact may dry and crack the skin.

THE BERKEBILE OIL COMPANY, INC.

INHALATION: It is possible to breathe this material under certain conditions of handling and use (for example, during heating, spraying, or stirring). Symptoms usually occur at air concentrations higher than the recommended exposure limits.

INGESTION: Swallowing small amounts of this material during normal handling is not likely to cause harmful effects

4. FIRST AID.

EYE CONTACT: If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is any visual difficulty seek medical attention.

SKIN CONTACT: First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.

INHALATION: If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

INGESTION: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

NOTE TO PHYSICIAN: Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin.

5. FIRE-FIGHTING MEASURES.

FLASHPOINT: >347° F. 175°C COC

EXPLOSIVE LIMIT: No Data

AUTOIGNITION TEMPERATURE: Not determined

HAZARDOUS PRODUCTS OF COMBUSTION:

May form: carbon dioxide and carbon monoxide, oxides of sulfur, nitrogen and phosphorus, various hydrocarbons.

FIRE AND EXPLOSION HAZARDS:

Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Dense smoke may be generated while burning.

EXTINGUISHING MEDIA: Regular foam, carbon dioxide, dry chemical.

FIRE FIGHTING INSTRUCTIONS: Water or foam may cause frothing which can be violent and possibly endanger the life of the firefighter. Wear a self-contained breathing apparatus with a full-face piece operated in the positive pressure demand mode with appropriate turnout gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS

THE BERKEBILE OIL COMPANY, INC.

6. ACCIDENTAL RELEASE MEASURES.

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED:

SMALL SPILL: Absorb liquid on vermiculite, floor absorbent or other absorbent material.

LARGE SPILL: Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred. Persons not wearing protective equipment should be excluded from area of spill until clean up is completed. Stop spill at source. Dike to prevent spreading. Pump to salvage tank.

7. HANDLING AND STORAGE.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Keep containers closed when not in use.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION.

RESPIRATORY PROTECTION: Not required under normal conditions of use. However, if oil mists are generated above recommended PEL/LV of 5 mg/m³, then a NIOSH/MSHA approved respirator is advised in absence of proper environmental control. (See your industrial hygienist).

SKIN PROTECTION: Not normally required. However, wear resistant gloves such as nitrile rubber to prevent irritation that may result from prolonged or repeated skin contact with product. Wear normal work clothing covering arms and legs.

EYE PROTECTION: Not required under normal conditions of use. However, if misting or splashing conditions exist, then safety glasses or chemical splash goggles are advised.

VENTILATION: Good general ventilation should be sufficient for most conditions.

ENGINEERING CONTROLS: Not required under normal conditions of use. However, if unusual operating conditions exist, then provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below PEL/TLV (s).

ALIPHATIC PETROLEUM DISTILLATES (64742-65-0)
OSHA VPEL 5.000 Mg/m³—TWA OIL MIST
ACGIH TLV 5.000 mg/m³—TWA OIL MIST

HYGIENIC WORK PRACTICES: Wash with soap and water before eating, drinking, smoking, or using toilet facilities. Take a shower after work if general contact occurs. Remove oil-soaked clothing and launder contaminated clothing before using again. Launder or discard contaminated leather gloves and shoes.

THE BERKEBILE OIL COMPANY, INC.

9. PHYSICAL AND CHEMICAL PROPERTIES.

BOILING POINT: No Data
VAPOR PRESSURE: No Data
LIQUID DENSITY: 7.220 lbs/gal @ 60.00 F
867 kg/l @ 15.60 C
APPEARANCE: No Data
STATE: Liquid
pH: No Data

SPECIFIC GRAVITY: .867 @ 60.00 F
VAPOR DENSITY: No Data
PERCENT VOLATILES (Including Water): N/A
EVAPORATION RATE: Slower than Ethyl Ether
ODOR: Petroleum
PHYSICAL FORM: No Data
VISCOSITY: > 7.0 CST @ 100 C
<= 56.0 CST @ 40 C

FLASHPOINT: >347° F. 175°C COC
EXPLOSIVE LIMIT: No Data
AUTOIGNITION TEMPERATURE: Not determined
HAZARDOUS PRODUCTS OF COMBUSTION:
May form: carbon dioxide and carbon monoxide, oxides of sulfur, nitrogen and phosphorus, various hydrocarbons.

10. STABILITY AND REACTIVITY.

HAZARDOUS POLYMERIZATION:
Product will not undergo hazardous polymerization.

HAZARDOUS DECOMPOSITION:
May form: carbon dioxide and carbon monoxide, oxides of sulfur, nitrogen and phosphorus, various hydrocarbons.

CHEMICAL STABILITY: Stable

INCOMPATIBILITY: Avoid contact with strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION.

TARGET ORGAN EFFECTS: No Data

DEVELOPMENTAL INFORMATION: There are no data available for assessing risk to the fetus from maternal exposure to this material.

CANCER INFORMATION: Based on the available information, this material cannot be classified with regard to carcinogenicity.

PRIMARY ROUTE (S) OF ENTRY: Inhalation, Skin contact, Eye contact, Ingestion

NOTE TO PHYSICIAN: Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin.

THE BERKEBILE OIL COMPANY, INC.

12. ECOLOGICAL INFORMATION.

NO DATA AVAILABLE

13. DISPOSAL CONSIDERATIONS.

WASTE DISPOSAL METHOD: Dispose of in accordance with all applicable local, state and federal and national regulations.

14. TRANSPORT INFORMATION.

This material is not subjected to the transport regulations of dangerous substances.

15. REGULATORY INFORMATION.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTION 313

This product has been reviewed according to the 40 CFR 372 promulgated under Sections 313 of the SARA Title III and is considered, under applicable definitions, to have not no chemical which is listed in Section 313 above the minimum concentrations.

PENNSYLVANIA RIGHT TO KNOW, HAZARDOUS SUBSTANCE SURVEY

This product is not known to contain any substances subject to the disclosure requirements of Pennsylvania.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 & 312 of the SARA Title III and is considered, under applicable definitions, to have not met any hazard category.

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are listed on the TSCA inventory.

CERCLA/SUPERFUND: Releases of this material are not reportable to the Environmental National Response Center under CERCLA/Superfund or to state and local response emergency planning committees under the Superfund amendments Compensation & Reauthorization Act (SARA) Title III, Section 304. Liability Act (40 CFR 302.4)

OSHA HAZARD COMMUNICATIONS STANDARD: This product is not a "Hazardous Chemical" as defined by the OSHA Hazardous Communication Standard, 29 CFR 1910.1200

THE BERKEBILE OIL COMPANY, INC.

16. OTHER INFORMATION.

IMPORTANT: The information and data herein are believed to be accurate and have been compiled from the sources to be reliable. It is offered for your consideration, investigation, and verification. Buyer assumes all risk of use, storage, and handling of the product in compliance with applicable federal, state, and local laws and regulations. **The Berkebile Oil Company, Inc. makes no warranty of any kind, express or implied, concerning the accuracy or completeness of the information and data herein.** The Berkebile Oil Company, Inc. will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete, or otherwise misleading. This information relates to the material designated and may not be valid for such material used in combination with any other materials nor in any process.

OHIO STATE UNIVERSITY COLLEGE OF BIOLOGICAL SCIENCES MSDS FILE

BOYLE-MIDWAY -- 3-IN-ONE HOUSEHOLD OIL

MATERIAL SAFETY DATA SHEET

FSC: 9150

NIIN: 009448186

Manufacturer's CAGE: 71112

Part No. Indicator: A

Part Number/Trade Name: 3-IN-ONE HOUSEHOLD OIL

General Information

Company's Name: BOYLE-MIDWAY,INC

Company's Emerg Ph #: 201-276-3900

Record No. For Safety Entry: 002

Tot Safety Entries This Stk#: 002

Date MSDS Prepared: 01JAN85

Safety Data Review Date: 16AUG83

MSDS Serial Number: BFYPL

Hazard Characteristic Code: N1

NRC/State License Number: N/A

Net Propellant Weight-Ammo: N/A

Ingredients/Identity Information

Proprietary: NO

Ingredient: PETROLEUM DISTILLATES (NAPHTHA OR RUBBER SOLVENT)

Ingredient Sequence Number: 01

Percent: > 97

NIOSH (RTECS) Number: SE7449000

CAS Number: 8002-05-9

OSHA PEL: 400 PPM

ACGIH TLV: 400 PPM; 8990

Proprietary: NO

Ingredient: INHIBITOR

Ingredient Sequence Number: 02

NIOSH (RTECS) Number: 1000602IN

Proprietary: NO

Ingredient: ODORANT

Ingredient Sequence Number: 03

NIOSH (RTECS) Number: 10013300M

Physical/Chemical Characteristics

Appearance And Odor: CLEAR AMBER LIQUID WITH FAINT CITRONELLA-LIKE ODOR

Specific Gravity: <0.923

Solubility In Water: NEGLIGIBLE

Fire and Explosion Hazard Data

Flash Point: >275F/135C (TOC)

Extinguishing Media: CARBON DIOXIDE, DRY CHEMICAL

Reactivity Data

Stability: YES

Hazardous Poly Occur: NO

Health Hazard Data

Signs/Symptoms Of Overexp: INGESTION: HARMFUL OR FATAL

Emergency/First Aid Proc: INGESTION: DO NOT INDUCE VOMITING, CALL A
PHYSICIAN IMMEDIATELY

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: VENTILATE AREA. AVOID SPARKS OR FLAME. WIPE UP
OR SOAK UP WITH ABSORPTIVE CLAY. WASH AREA THOROUGHLY WITH SOAPY WATER
TO

AVOID SLIPPERY CONDITION.

Waste Disposal Method: DISPOSE OF IN METAL WASTE CONTAINER WITH TIGHTLY
FITTING LID.Precautions-Handling/Storing: KEEP OUT OF REACH OF CHILDREN.

Control Measures

Transportation Data

Trans Data Review Date: 83266

DOT PSN Code: ZZZ

DOT Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION

IMO PSN Code: ZZZ

IMO Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION

IATA PSN Code: ZZZ

IATA Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION

AFI PSN Code: ZZZ

AFI Prop. Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION

Additional Trans Data: NOT REGULATED FOR SHIPPING.

Disposal Data

Label Data

Label Required: YES

Technical Review Date: 31OCT90

Label Status: F

Common Name: 3-INONE HOUSEHOLD OIL

Chronic Hazard: NO

Signal Word: CAUTION!

Acute Health Hazard-Slight: X

Contact Hazard-Slight: X

Fire Hazard-Slight: X

Reactivity Hazard-None: X

Special Hazard Precautions: COMBUSTIBLE.. CONTAINS REFINED PETROLEUM BASE AND/OR SYNTHETIC HYDROCARBON OIL WITH ADDITIVES. REPEATED/PROLONGED CONTACT

MAY CAUSE IRRITATION OR OIL ACNE TO EYE/SKIN. INHALATION OF MIST MAY CAUSE RESPIRATORY TRACT IRRITATION, POSSIBLE PULMONARY EDEMA OR OTHER PROBLEMS.

FLUSH WITH PLENTY OF WATER. REMOVE AND LAUNDER CONTAMINATED CLOTHING; WASH

SKIN WITH SOAP AND WATER AFTER EACH USE/HANDLING. AVOID SKIN CONTACT AND

INHALATION OF MIST. GET MED HELP FOR ANY SYMPTOM. KEEP AWAY FROM HEAT/OPEN

FLAMES. DO NOT CONTAMINATE WATERWAYS.ABSORB SPILL WITH AN ABSORBENT.

Protect Eye: Y

Protect Skin: Y

Label Name: BOYLE-MIDWAY HOUSEHOLD PROD AMERICAN HOME PRODUCTS

Label Street: 685 3RD AVE 6TH FLOOR

Label City: NEW YORK

Label State: NY

Label Zip Code: 10017-4074

Label Country: US

URL for this msds <http://hazard.com>. If you wish to change, add to, or delete information in this archive please sent updates to dan@hazard.com.



WD-40 Company

Material Safety Data Sheet



1 - Chemical Product and Company Identification

Manufacturer: WD-40 Company	Chemical Name: Organic Mixture
Address: 1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California, USA 92138 -0607	Trade Name: 3-IN-ONE Motor Oil
Telephone:	Product Use: Lubricant
Emergency only: 1-888-324-7596 (PROZAR)	MSDS Date Of Preparation: February 2006
Information: 1-888-324-7596	

2 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent
Severely Hydrotreated or Solvent-Refined	64742-54-7	>96
Heavy Paraffinic Oil	64741-88-4	
Non-Hazardous Ingredients	Proprietary	<4

See Section 8 for Exposure Limits

3 - Hazards Identification

Emergency Overview:

CAUTION! May cause mild eye irritation. Prolonged or repeated skin contact may cause mild irritation and defatting dermatitis. Avoid eye contact. Avoid prolonged or repeated contact with skin and clothing.

Symptoms of Overexposure:

Inhalation: High concentrations of oil mists may cause nasal and respiratory irritation.

Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.

Eye Contact: Contact may be mildly irritating to eyes. May cause redness and tearing.

Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration into the lungs during swallowing or vomiting may cause chemical pneumonitis.

Chronic Effects: None expected.

Medical Conditions Aggravated by Exposure: Preexisting eye, skin and respiratory conditions may be aggravated by exposure.

Suspected Cancer Agent:

Yes No ☒ X

4 - First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.

Eye Contact: Flush thoroughly with water. Get medical attention if irritation persists.

Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.

Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

5 - Fire Fighting Measures

Flash Point: Greater than 350°F Tag Open Cup

Flammable Limits: Not determined

Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.

Special Fire Fighting Procedures: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing in areas where chemicals are used and stored. Cool fire-exposed containers with water.

Unusual Fire and Explosion Hazards: Slightly combustible liquid. If heated above the flashpoint, will release flammable vapors that can present a fire or explosion hazard

6 – Accidental Release Measures

Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing oil mists. Use with adequate ventilation. Keep away from heat, hot surfaces and open flames. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children.

Storage: Store in a cool, well-ventilated area, away from incompatible materials. NFPA 30 Class IIIB Liquid.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Severely Hydrotreated or Solvent-Refined Heavy Paraffinic Oil	5 mg/m3 TWA (OSHA/ACGIH) 10 mg/m3 STEL (ACGIH)
Non-Hazardous Ingredients	None Established

The Following Controls are Recommended for Normal Consumer Use of this Product

Engineering Controls: Use in a well-ventilated area.

Personal Protection:

Eye Protection: Avoid eye contact.

Skin Protection: Avoid prolonged skin contact. Wash hands with soap and water after use.

Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended

Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.

Personal Protection:

Eye Protection: Safety glasses recommended where eye contact is possible.

Skin Protection: Wear chemical resistant gloves.

Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Boiling Point:	>550°F	Specific Gravity:	0.866-0.940 @ 20°C
Solubility in Water:	Insoluble	pH:	Not Applicable
Vapor Pressure:	<0.1 mmHg @ 20°C	Vapor Density:	Greater than 1
Percent Volatile:	Nil	VOC:	Nil
Coefficient of Water/Oil Distribution:	Not Determined	Appearance/Odor	Clear amber liquid/faint citronella odor

10 – Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Avoid heat, flames and other sources of ignition.

Incompatibilities: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

The oral toxicity of this product is estimated to be greater than 5,000 mg/kg and the dermal toxicity greater than 2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria.
None of the components of this product is listed as a carcinogen or suspected carcinogen or is considered a reproductive hazard.

12 – Ecological Information

No data is currently available.

13 - Disposal Considerations

If this product becomes a waste, it would not be expected to meet the criteria of a RCRA of a hazardous waste. However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description: Not Regulated
IMDG Shipping Description: Not Regulated

15 – Regulatory Information

U.S. Federal Regulations:

CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA TITLE III:

Hazard Category For Section 311/312: Not Hazardous

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory

Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List or exempt from notification

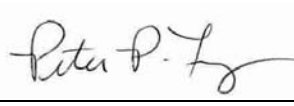
Canadian WHMIS Classification: Not a controlled product.

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

HMIS Hazard Rating:

Health – 1 (slight hazard), Fire Hazard – 1 (moderate hazard), Reactivity – 0 (minimal hazard)

SIGNATURE: 

TITLE: Director of Global Quality Assurance

REVISION DATE: February 2008

SUPERSEDES: January 2005



WD-40 Company

Material Safety Data Sheet



1 - Chemical Product and Company Identification

Manufacturer: WD-40 Company		Trade Name: 3-IN-ONE Professional Penetrant Spray
Address:	1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California, USA 92138 -0607	Chemical Name: Organic Mixture
Telephone:		Product Use: Cleaner, Lubricant
Emergency only:	1-888-324-7596	MSDS Date Of Preparation: 8/27/07
(PROSAR)		
Information:	1-888-324-7596	

2 – Hazards Identification

Emergency Overview:

WARNING! Flammable. Contents under pressure. Harmful or fatal if swallowed. Combustible Liquid and Vapor. If swallowed, may be aspirated and cause lung damage. May cause eye, skin and respiratory tract irritation. Avoid eye contact. Use with adequate ventilation. Keep away from heat, sparks and all other sources of ignition.

Symptoms of Overexposure:

Inhalation: Mist or vapor can irritate the throat and lungs. High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.

Skin Contact: May cause mild skin irritation with short-term exposure with redness, itching and burning of the skin. Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.

Eye Contact: Contact may be mildly irritating to eyes. May cause redness, stinging, swelling and tearing.

Ingestion: This product has low oral toxicity. If swallowed, this material may cause irritation of the mouth, throat and esophagus. Swallowing may cause gastrointestinal irritation, nausea, vomiting, diarrhea, dizziness, drowsiness, loss of consciousness, delirium and other central nervous system effects. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.

Chronic Effects: Prolonged or repeated skin contact may defeat the skin resulting in irritation and dermatitis.

Medical Conditions Aggravated by Exposure: Preexisting eye, skin and respiratory conditions may be aggravated by exposure.

Suspected Cancer Agent:

Yes No ☒

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent
Petroleum Solvent	64742-47-8	70-100%
	64742-88-7	
White Mineral Oil	8042-47-5	3-6%
Carbon Dioxide	124-38-9	2-3%

See Section 8 for Exposure Limits

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.

Eye Contact: Flush thoroughly with water. Get medical attention if irritation persists.

Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.

Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

5 – Fire Fighting Measures

Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Cool fire exposed containers with water.

Special Fire Fighting Procedures: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shidlding to protect against bursting cans.

Unusual Fire and Explosion Hazards: Contents under pressure. Keep away from ignition source and open fire. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Combustible liquid and vapor. This material can release flammable vapors when heated above ambient temperatures. Vapors can cause a flash fire. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. A vapor and air mixture can create an explosion hazard in confined spaces.

6 – Accidental Release Measures

Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use with adequate ventilation. Keep away from heat, sparks, hot surfaces and open flames. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture or incinerate containers.

Storage: Store in a cool, well-ventilated area, away from incompatible materials. Do not store in direct sunlight or above 120°F. U.F.C (NFPA 30B) Level 3 Aerosol.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Petroleum Solvent (as total hydrocarbon vapor)	200 ppm Skin TWA ACGIH TLV
White Mineral Oil	5 mg/m ³ TWA ACGIH TLV, 10 mg/m ³ STEL ACGIH TLV 5 mg/m ³ TWA OSHA PEL
Carbon Dioxide	9000 ppm TWA ACGIH TLV, 54,000 ppm STEL ACGIH TLV, 9000 ppm TWA OSHA PEL

The Following Controls are Recommended for Normal Consumer Use of this Product

Engineering Controls: Use in a well-ventilated area.

Personal Protection:

Eye Protection: Avoid eye contact. Always spray away from face.

Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where prolonged skin contact is likely.

Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended

Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.

Personal Protection:

Eye Protection: Safety goggles recommended where eye contact is possible.

Skin Protection: Wear chemical resistant gloves.

Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Boiling Point:	159-199°C (318-390°F) (Petroleum Solvent)	Specific Gravity:	0.80
Solubility in Water:	Insoluble	pH:	Not Applicable
Vapor Pressure:	10 +/- 5 psi @ 70°F	Vapor Density:	Greater than 1
Percent Volatile:	94.9%	VOC:	46.569%
Coefficient of Water/Oil Distribution:	Not Determined	Appearance/Odor	Light amber liquid with a petroleum odor.
Flash Point:	107°F (TOC)	Flammable Limits: (Solvent Portion)	LEL: 1.0% UEL: 6.0%

10 – Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition.

Incompatibilities: Strong acids, alkalis, and oxidizers.

Hazardous Decomposition Products: Carbon monoxide and carbon dioxide, smoke fumes, and/or unburned hydrocarbons.

11 – Toxicological Information

The oral toxicity of this product is estimated to be greater than 5,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

None of the components of this product is listed as a carcinogen or suspected carcinogen or is considered a reproductive hazard.

12 – Ecological Information

No data is currently available.

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations. Do not puncture or incinerate containers.

14 – Transportation Information

DOT Surface Shipping Description: Consumer Commodity, ORM-D

IMDG Shipping Description: UN1950, Aerosols, 2, LTD QTY

15 – Regulatory Information

U.S. Federal Regulations:

CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA TITLE III:

Hazard Category For Section 311/312: Acute Health, Fire Hazard

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory

Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List or exempt from notification

Canadian WHMIS Classification: Class B-5 (Flammable Aerosol), Class D-2-B (Toxic material causing other toxic effects)

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

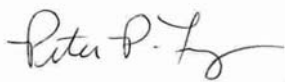
HMIS Hazard Rating:

Health – 1 (slight hazard), Fire Hazard – 2 (moderate hazard), Reactivity – 0 (minimal hazard)

Revision Date: August 2007

Supersedes: December, 2004

SIGNATURE: _____



TITLE: _____ Director of Global Quality Assurance

REVISION DATE: _____ 08/27/2007 _____

SUPERSEDES: _____ 12/01/2004 _____



WD-40 Company

Material Safety Data Sheet



1 - Chemical Product and Company Identification

Manufacturer: WD-40 Company		Trade Name: 3-IN-ONE White Lithium Grease Aerosol
Address:	1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California, USA 92138 -0607	Chemical Name: Organic Mixture
Telephone:		Product Use: Cleaner, Lubricant
Emergency only:	1-888-324-7596	
(PROSAR)		
Information:	1-888-324-7596	

2 – Hazards Identification

Emergency Overview:

WARNING! Extremely flammable aerosol. Contents under pressure. Combustible Liquid and Vapor. If swallowed, may be aspirated and cause lung damage. May cause eye, skin and respiratory tract irritation. Use with adequate ventilation. Keep away from heat, sparks and all other sources of ignition.

Symptoms of Overexposure:

Inhalation: Mist or vapor can irritate the throat and lungs. High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.

Skin Contact: May cause mild skin irritation with short-term exposure with redness, itching and burning of the skin. Prolonged and/or repeated contact may produce defatting and possible dermatitis.

Eye Contact: Contact may be mildly irritating to eyes. May cause redness, stinging, swelling and tearing.

Ingestion: This product has low oral toxicity. If swallowed, this material may cause irritation of the mouth, throat and esophagus. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.

Chronic Effects: Prolonged or repeated skin contact may defeat the skin resulting in irritation and dermatitis.

Medical Conditions Aggravated by Exposure: Preexisting eye, skin and respiratory conditions may be aggravated by exposure.

Suspected Cancer Agent:

Yes No ☒

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent
Petroleum Solvent	64742-47-8	25-35%
Lithium Grease	Mixture	15-25%
Zinc Oxide	1314-13-2	<1-5%
Propellant (propane, n-butane)	74-98-6/106-97-8	40-50%

See Section 8 for Exposure Limits

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.

Eye Contact: Flush thoroughly with water. Get medical attention if irritation persists.

Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

5 – Fire Fighting Measures

Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Cool fire exposed containers with water.

Special Fire Fighting Procedures: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shidlding to protect against bursting cans.

Unusual Fire and Explosion Hazards: Contents under pressure. Keep away from ignition source and open fire. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Combustible liquid and vapor. This material can release flammable vapors when heated above ambient temperatures. Vapors can cause a flash fire. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. A vapor and air mixture can create an explosion hazard in confined spaces.

6 – Accidental Release Measures

Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use with adequate ventilation. Keep away from heat, sparks, hot surfaces and open flames. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture or incinerate containers.

Storage: Store in a cool, well-ventilated area, away from incompatible materials. Do not store in direct sunlight or above 120°F. U.F.C (NFPA 30B) Level 3 Aerosol.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Petroleum Solvent (as total hydrocarbon vapor)	200 mg/m ³ Skin TWA ACGIH TLV
Lithium Grease	None Listed
Propane	1000 ppm TWA OSHA PEL 1000 ppm TWA ACGIH TLV (aliphatic hydrocarbon gas)
n-Butane	1000 ppm TWA ACGIH TLV (aliphatic hydrocarbon gas)

The Following Controls are Recommended for Normal Consumer Use of this Product

Engineering Controls: Use in a well-ventilated area.

Personal Protection:

Eye Protection: Avoid eye contact. Always spray away from face.

Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where prolonged skin contact is likely.

Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended

Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.

Personal Protection:

Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Boiling Point:	218-257°C (424-495°F) (Petroleum Solvent)	Specific Gravity:	0.74
Solubility in Water:	Insoluble	pH:	Not Applicable
Vapor Pressure:	35-60 psi @ 70°F	Vapor Density:	Not Determined
Percent Volatile:	76.6%	VOC:	Not Determined
Coefficient of Water/Oil Distribution:	Not Determined	Appearance/Odor	Off-white liquid with a petroleum odor.
Flash Point:	-20°F (TOC)	Flammable Limits:	LEL: 1.8% UEL: 9.5%

10 – Stability and Reactivity

Stability: Stable
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition.
Incompatibilities: Strong acids, alkalis, and oxidizers.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide, smoke fumes, and/or unburned hydrocarbons.

11 – Toxicological Information

The oral toxicity of this product is estimated to be greater than 5,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.
None of the components of this product is listed as a carcinogen or suspected carcinogen or is considered a reproductive hazard.

12 – Ecological Information

No data is currently available.

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations. Do not puncture or incinerate containers.

14 – Transportation Information

DOT Surface Shipping Description: Consumer Commodity, ORM-D
IMDG Shipping Description: UN1950, Aerosols, 2.1, LTD QTY

15 – Regulatory Information

U.S. Federal Regulations:
CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA TITLE III:

Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: Zinc Oxide <1-5%

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory

Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List or exempt from notification

Canadian WHMIS Classification: Class B-5 (Flammable Aerosol), Class D-2-B (Toxic material causing other toxic effects)

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

HMIS Hazard Rating:

Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Reactivity – 0 (minimal hazard)

SIGNATURE:  TITLE: Director of Global Quality Assurance

REVISION DATE: February, 2008 SUPERSEDES: October, 2007



Safety Data Sheet

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Document Group:	09-5451-1	Version Number:	26.00
Issue Date:	06/20/14	Supersedes Date:	08/18/13

SECTION 1: Identification

1.1. Product identifier

3M Brand Fire Barrier CP-25WB+

Product Identification Numbers

42-0016-4710-8, 42-0016-4715-7, 42-0016-4716-5, 98-0400-5380-7, 98-0400-5381-5, 98-0400-5382-3, 98-0400-5383-1, 98-0400-5406-0, 98-0400-5456-5, 98-0400-5562-0, 98-0400-5573-7, 98-0400-5610-7, 98-0400-5629-7

1.2. Recommended use and restrictions on use

Recommended use

Fire Protection, Used as Firestop in buildings.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2B.

2.2. Label elements

Signal word

Warning

Symbols

Not applicable

Pictograms

Not applicable

Hazard Statements

Causes eye irritation.

Precautionary Statements

General:

Keep out of reach of children.

Prevention:

Wash thoroughly after handling.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

2.3. Hazards not otherwise classified

None.

25% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Zinc Borate 2335	138265-88-0	10 - 30 Trade Secret *
Polymer (NJTS Reg. No. 04499600-7270)	Trade Secret*	10 - 30 Trade Secret *
Water	7732-18-5	10 - 30 Trade Secret *
Sodium Silicate	1344-09-8	10 - 30 Trade Secret *
Ethylhexyldiphenyl phosphate	1241-94-7	3 - 7 Trade Secret *
Oxide glass chemicals	65997-17-3	1 - 5 Trade Secret *
Iron oxide	1309-37-1	1 - 5 Trade Secret *
Polyethylene Glycol	25322-68-3	1 - 5 Trade Secret *
Triphenyl phosphate	115-86-6	< 1.0 Trade Secret *
Di-2-ethylhexylphenyl phosphate	16368-97-1	< 1.0 Trade Secret *
Polyoxyethylene monooctylphenyl ether	9036-19-5	< 1.0 Trade Secret *
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	55965-84-9	< 0.001 Trade Secret *

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Avoid eye contact. Keep out of reach of children. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities

Keep cool. Store away from heat. Store away from areas where product may come into contact with food or pharmaceuticals. Store in a dry place.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Triphenyl phosphate	115-86-6	ACGIH	TWA:3 mg/m3	
Triphenyl phosphate	115-86-6	OSHA	TWA:3 mg/m3	

Iron oxide	1309-37-1	ACGIH	TWA(respirable fraction):5 mg/m3	
Iron oxide	1309-37-1	OSHA	TWA(as fume):10 mg/m3	
ROUGE	1309-37-1	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Polyethylene Glycol	25322-68-3	AIHA	TWA(as particulate):10 mg/m3	
Oxide glass chemicals	65997-17-3	Manufacturer determined	TWA(as dust):10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Butyl Rubber

Neoprene

Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form: Solid

Specific Physical Form: Paste

Odor, Color, Grade: Red with negligible odor

Odor threshold *No Data Available*

Melting point *No Data Available*

Flash Point No flash point

Flammability (solid, gas) Not Classified

Flammable Limits(LEL) *Not Applicable*

Flammable Limits(UEL) *Not Applicable*

Specific Gravity 1.35 [*Ref Std: WATER=1*]

Solubility in Water Complete

Solubility- non-water *No Data Available*

Autoignition temperature *Not Applicable*

Decomposition temperature *No Data Available*

Volatile Organic Compounds < 1 g/l

VOC Less H₂O & Exempt Solvents < 1 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified
Oxides of Phosphorus	Not Specified

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient

classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
Polymer (NJTS Reg. No. 04499600-7270)	Ingestion	Rat	LD50 > 2,000 mg/kg
Zinc Borate 2335	Dermal	Rabbit	LD50 > 10,000 mg/kg
Zinc Borate 2335	Ingestion	Rat	LD50 > 10,000 mg/kg
Sodium Silicate	Dermal	Rabbit	LD50 > 4,640 mg/kg
Sodium Silicate	Ingestion	Rat	LD50 500 mg/kg
Ethylhexyldiphenyl phosphate	Dermal	Rabbit	LD50 > 7,940 mg/kg
Ethylhexyldiphenyl phosphate	Ingestion	Rat	LD50 > 24,000 mg/kg
Iron oxide	Dermal	Not available	LD50 3,100 mg/kg
Iron oxide	Ingestion	Not available	LD50 3,700 mg/kg
Polyethylene Glycol	Dermal	Rabbit	LD50 > 20,000 mg/kg
Polyethylene Glycol	Ingestion	Rat	LD50 32,770 mg/kg
Oxide glass chemicals	Dermal		LD50 estimated to be > 5,000 mg/kg
Oxide glass chemicals	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Polyoxyethylene mono-octylphenyl ether	Dermal	Rabbit	LD50 > 3,000 mg/kg
Polyoxyethylene mono-octylphenyl ether	Ingestion	Rat	LD50 > 500 mg/kg
Triphenyl phosphate	Dermal	Rabbit	LD50 > 7,900 mg/kg
Triphenyl phosphate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 50 mg/l
Triphenyl phosphate	Ingestion	Rat	LD50 > 3,000 mg/kg
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Dermal	Rabbit	LD50 87 mg/kg
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.33 mg/l

3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Ingestion	Rat	LD50 40 mg/kg
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ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Polymer (NJTS Reg. No. 04499600-7270)	Rabbit	Minimal irritation
Sodium Silicate	Rabbit	Corrosive
Iron oxide	Rabbit	No significant irritation
Polyethylene Glycol	Rabbit	Minimal irritation
Oxide glass chemicals		No significant irritation
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Polymer (NJTS Reg. No. 04499600-7270)		Mild irritant
Sodium Silicate	Rabbit	Corrosive
Iron oxide	Rabbit	No significant irritation
Polyethylene Glycol	Rabbit	Mild irritant
Oxide glass chemicals		No significant irritation
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
Sodium Silicate	Mouse	Not sensitizing
Iron oxide	Human	Some positive data exist, but the data are not sufficient for classification
Polyethylene Glycol	Guinea pig	Not sensitizing
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Human and animal	Sensitizing

Photosensitization

Name	Species	Value
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Human and animal	Not sensitizing

Respiratory Sensitization

Name	Species	Value

Germ Cell Mutagenicity

Name	Route	Value
Sodium Silicate	In Vitro	Not mutagenic
Sodium Silicate	In vivo	Not mutagenic
Iron oxide	In Vitro	Not mutagenic
Polyethylene Glycol	In Vitro	Not mutagenic
Polyethylene Glycol	In vivo	Not mutagenic
Oxide glass chemicals	In Vitro	Some positive data exist, but the data are not sufficient for classification
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	In vivo	Not mutagenic
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Iron oxide	Inhalation	Human	Some positive data exist, but the data are not

			sufficient for classification
Polyethylene Glycol	Ingestion	Rat	Not carcinogenic
Oxide glass chemicals	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Dermal	Mouse	Not carcinogenic
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Sodium Silicate	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 200 mg/kg/day	during gestation
Polyethylene Glycol	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,125 mg/kg/day	during gestation
Polyethylene Glycol	Ingestion	Not toxic to male reproduction	Rat	NOAEL 5699 +/- 1341 mg/kg/day	5 days
Polyethylene Glycol	Not Specified	Some positive reproductive/developmental data exist, but the data are not sufficient for classification		NOEL N/A	
Polyethylene Glycol	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 562 mg/animal/day	during gestation
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Ingestion	Not toxic to female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Ingestion	Not toxic to male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Ingestion	Not toxic to development	Rat	NOAEL 15 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Sodium Silicate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
Polyethylene Glycol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.008 mg/l	2 weeks
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Sodium Silicate	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 2,400 mg/kg/day	4 weeks
Sodium Silicate	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	blood	All data are negative	Rat	NOAEL 804	3 months

					mg/kg/day	
Sodium Silicate	Ingestion	heart liver	All data are negative	Rat	NOAEL 1,259 mg/kg/day	8 weeks
Iron oxide	Inhalation	pulmonary fibrosis pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Polyethylene Glycol	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.008 mg/l	2 weeks
Polyethylene Glycol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Polyethylene Glycol	Ingestion	heart endocrine system hematopoietic system liver nervous system	All data are negative	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Oxide glass chemicals	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL not available	occupational exposure

Aspiration Hazard

Name	Value

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information****Test Organism**

Water flea, Daphnia magna

Green algae, Pseudokirchneriella subcapitata

Test Type

48 hours Aquatic Toxicity - Acute

72 hours Aquatic Toxicity - Chronic

Result

27 mg/l

2.6 mg/l

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Zinc Borate 2335 (ZINC COMPOUNDS)	138265-88-0	10 - 30

15.2. State Regulations

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

15.4. International Regulations

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 1 Flammability: 1 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 2 Flammability: 1 Physical Hazard: 0 Personal Protection: X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(TM) Fire Barrier Sealant FD 150+, Red

MANUFACTURER: 3M

DIVISION: Building & Commercial Services Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 05/24/13

Supersedes Date: 07/14/10

Document Group: 27-3508-2

Product Use:

Intended Use: Fire Protection
Specific Use: Caulk used as a passive fire protection.

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
Calcium Carbonate	1317-65-3	40 - 70
Polymer	Trade Secret	10 - 30
Water	7732-18-5	5 - 10
Acrylic Emulsion	70677-00-8	5 - 10
Mineral Spirits	64742-88-7	5 - 10
Plasticizer	27138-31-4	1 - 5
Ethylene Glycol	107-21-1	1 - 5
Iron Oxide	1309-37-1	1 - 5
Ethyl hydroxyethyl cellulose	9004-58-4	0.5 - 1.5
Quartz Silica	14808-60-7	0.1 - 1
5-CHLORO-2-METHYL-4-ISOTHIAZOLINE-3-ONE	26172-55-4	< 0.1
2-METHYL-4-ISOTHIAZOLINE-3-ONE	2682-20-4	< 0.1

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Paste

Odor, Color, Grade: Red paste with low odor

General Physical Form: Solid

Immediate health, physical, and environmental hazards: May cause allergic skin reaction. May cause target organ effects.
Contains a chemical or chemicals which can cause cancer.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, and itching.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May be absorbed following inhalation and cause target organ effects.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Cardiac Effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal.

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Ingredient
Quartz Silica

C.A.S. No.
14808-60-7

Class Description
Grp. 1: Carcinogenic to humans

Regulation
International Agency for Research on Cancer

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are

followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature

Not Applicable

Flash Point

No flash point

Flammable Limits(LEL)

Not Applicable

Flammable Limits(UEL)

Not Applicable

OSHA Flammability Classification:

Not Applicable

5.2 EXTINGUISHING MEDIA

Non-combustible. Choose material suitable for surrounding fire.

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Not applicable.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode.

6.2. Environmental precautions

Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

Clean-up methods

Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Collect as much of the spilled material as possible. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Keep out of the reach of children. Avoid breathing of vapors. Avoid eye contact. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid contact with oxidizing agents.

7.2 STORAGE

Store away from areas where product may come into contact with food or pharmaceuticals. Store in a cool, dry place. Store away from oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use in a well-ventilated area.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Safety Glasses with side shields
Indirect Vented Goggles

.

8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Butyl Rubber

Neoprene

.

8.2.3 Respiratory Protection

Avoid breathing of vapors. Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
2-METHYL-4-ISOTHIAZOLINE-3-ONE	CMRG	TWA	1.5 mg/m3	Sensitizer
2-METHYL-4-ISOTHIAZOLINE-3-ONE	CMRG	STEL	4.5 mg/m3	Sensitizer
5-CHLORO-2-METHYL-4-ISOTHIAZOLINE-3-ONE	CMRG	TWA	0.076 mg/m3	Sensitizer
5-CHLORO-2-METHYL-4-	CMRG	STEL	0.23 mg/m3	Sensitizer

ISOTHIAZOLINE-3-ONE

Ethylene Glycol	ACGIH	CEIL, as aerosol	100 mg/m3
Ethylene Glycol	CMRG	CEIL, as vapor and aerosol	100 mg/m3
Iron Oxide	ACGIH	TWA, respirable fraction	5 mg/m3
Iron Oxide	OSHA	TWA, as fume	10 mg/m3
Calcium Carbonate	OSHA	TWA, respirable fraction	5 mg/m3
Calcium Carbonate	OSHA	TWA, as total dust	15 mg/m3
Mineral Spirits	CMRG	TWA	100 ppm
Quartz Silica	ACGIH	TWA, respirable fraction	0.025 mg/m3
Quartz Silica	OSHA	TWA concentration, respirable	0.1 mg/m3
Quartz Silica	OSHA	TWA concentration, as total dust	0.3 mg/m3

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES
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Specific Physical Form:	Paste
Odor, Color, Grade:	Red paste with low odor
General Physical Form:	Solid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	No flash point
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>

Specific Gravity	1.45 [Ref Std: WATER=1]
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Melting point	<i>No Data Available</i>
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Volatile Organic Compounds	< 15 % weight
VOC Less H2O & Exempt Solvents	< 250 g/l

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

None known

10.2 Materials to avoid

Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide

Condition

Not Specified
Not Specified

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

CHEMICAL FATE INFORMATION

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: For quantities <100 lbs. (50kg): dispose of waste product in a sanitary landfill. For larger quantities: Dispose of waste product in a facility permitted to accept chemical waste.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

98-0400-5598-4, 98-0400-5599-2, 98-0400-5600-8, 98-0400-5601-6

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Ethylene Glycol	107-21-1	1 - 5

This material contains a chemical which requires export notification under TSCA Section 12[b]:

<u>Ingredient (Category if applicable)</u>	<u>C.A.S. No</u>	<u>Regulation</u>	<u>Status</u>
2-METHYL-4-ISOTHIAZOLINE-3-ONE	2682-20-4	Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals	Proposed

This material contains a chemical subject to a proposed EPA Significant New Use Rule (TSCA Section 5)

<u>Ingredient (Category if applicable)</u>	<u>C.A.S. No</u>	<u>Reference</u>
2-METHYL-4-ISOTHIAZOLINE-3-ONE	2682-20-4	62 FR 34421

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

The components of this product are listed on the Canadian Domestic Substances List.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.
--

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 2 **Flammability:** 0 **Reactivity:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 2 **Flammability:** 0 **Reactivity:** 0 **Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS®) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint and Coatings Association (NPCA).

Reason for Reissue: Added new sku

Revision Changes:

Section 1: Product use information was modified.

Section 16: Disclaimer (second paragraph) was modified.

Section 3: Potential effects from skin contact information was modified.
Section 7: Storage information was modified.
Section 10: Hazardous decomposition or by-products table was modified.
Section 8: Respiratory protection - recommended respirators information was modified.
Section 4: First aid for skin contact - decontamination - was modified.
Section 4: First aid for skin contact - medical assistance - was modified.
Section 8: Respiratory protection - recommended respirators was modified.
Section 3: Immediate other hazard(s) was modified.
Section 14: Transportation legal text was modified.
Section 3: Other health effects information was modified.
Section 16: HMIS explanation was modified.
Section 5: Flammable limits (UE) information was modified.
Section 5: Flammable limits (LEL) information was modified.
Section 5: Autoignition temperature information was modified.
Section 5: Flash point information was modified.
Section 9: Property description for optional properties was modified.
Section 9: Specific gravity information was modified.
Section 9: Melting point information was modified.
Section 8: Respiratory protection - recommended respirators guide was modified.
Section 9: Flash point information was modified.
Section 9: Flammable limits (LEL) information was modified.
Section 9: Flammable limits (UEL) information was modified.
Section 9: Autoignition temperature information was modified.
Section 2: Ingredient table was modified.
Section 15: EPCRA 313 information was modified.
Section 8: Exposure guidelines ingredient information was modified.
Section 3: Carcinogenicity table was modified.
Section 6: 6.2. Environmental precautions heading was modified.
Section 6: 6.1. Personal precautions, protective equipment and emergency procedures heading was modified.
Section 6: Methods for cleaning up information was modified.
Section 3: Immediate skin hazard(s) was added.
Section 4: First aid for skin contact - termination of exposure - was added.
Section 4: First aid for skin contact - handling - was added.
Section 15: TSCA section 12[b] text was added.
Section 15: TSCA section 12[b] information was added.
Section 15: TSCA section 5 text - proposed chemical - was added.
Section 15: TSCA section 5 ingredient information was added.
Section 16: Web address was added.
Section 1: Address was added.
Copyright was added.
Company logo was added.
Telephone header was added.
Company Telephone was added.
Section 1: Emergency phone information was added.
Section 1: Emergency phone information was deleted.
Section 3: Carcinogenicity comment was deleted.
Company Logo was deleted.
Copyright was deleted.
Section 16: Web address heading was deleted.
Section 1: Address line 1 was deleted.
Section 1: Address line 2 was deleted.
Section 8: Respiratory protection - recommended respirators punctuation was deleted.
Section 12: Ecotoxicological phrase was deleted.
Section 12: Chemical Fate phrase was deleted.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M

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Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M Fire Block Sealant FB 136
MANUFACTURER: 3M
DIVISION: Building & Commercial Services Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 05/25/12
Supersedes Date: Initial Issue

Document Group: 30-3404-8

Product Use:

Intended Use: Fire Protection

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
WATER	7732-18-5	40 - 70
KAOLIN	1332-58-7	30 - 60
SODIUM SILICATE	1344-09-8	10 - 30
TITANIUM DIOXIDE	13463-67-7	0.5 - 1.5
QUARTZ SILICA	14808-60-7	0.1 - 1.0
CARBON BLACK	1333-86-4	< 0.1

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Paste

Odor, Color, Grade: Gray, thixotropic paste, with minimal odor

General Physical Form: Solid

Immediate health, physical, and environmental hazards: May cause target organ effects. Contains a chemical or chemicals which can cause cancer.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Inhalation:

No health effects are expected.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Prolonged or repeated exposure may cause:

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Class Description</u>	<u>Regulation</u>
QUARTZ SILICA	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
TITANIUM DIOXIDE	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: If signs/symptoms develop, remove person to fresh air. If signs/symptoms persist, get medical attention.

If Swallowed: Do not induce vomiting. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get immediate medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature

Not Applicable

Flash Point

No flash point

Flammable Limits(LEL)

Not Applicable

Flammable Limits(UEL)

Not Applicable

5.2 EXTINGUISHING MEDIA

Material will not burn.

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Not applicable.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode.

6.2. Environmental precautions

Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

Clean-up methods

Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Collect as much of the spilled material as possible. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Avoid eye contact with dust or airborne particles. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid skin contact.

7.2 STORAGE

Keep container tightly closed. Store under normal warehouse conditions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Provide appropriate local exhaust ventilation for sanding, grinding or machining.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Safety Glasses with side shields

Indirect Vented Goggles

.

8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Neoprene

Nitrile Rubber

.

8.2.3 Respiratory Protection

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection. Avoid breathing of dust created by cutting, sanding, grinding or machining.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or full facepiece air-purifying respirator suitable for particulates

. Select and use respiratory protection to prevent an inhalation exposure based on the results of an exposure assessment. Consult with your respirator manufacturer for selection of appropriate types of respirators.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
CARBON BLACK	ACGIH	TWA, inhalable fraction	3 mg/m3	
CARBON BLACK	CMRG	TWA	0.5 mg/m3	
CARBON BLACK	OSHA	TWA	3.5 mg/m3	
KAOLIN	ACGIH	TWA, respirable fraction	2 mg/m3	
KAOLIN, TOTAL DUST	OSHA	TWA, respirable fraction	5 mg/m3	
KAOLIN, TOTAL DUST	OSHA	TWA, as total dust	15 mg/m3	
QUARTZ SILICA	ACGIH	TWA, respirable fraction	0.025 mg/m3	
QUARTZ SILICA	OSHA	TWA concentration, respirable	0.1 mg/m3	
QUARTZ SILICA	OSHA	TWA concentration, as total dust	0.3 mg/m3	
TITANIUM DIOXIDE	ACGIH	TWA	10 mg/m3	
TITANIUM DIOXIDE	CMRG	TWA, as respirable dust	5 mg/m3	
TITANIUM DIOXIDE	OSHA	TWA, as total dust	15 mg/m3	

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Paste
Odor, Color, Grade:	Gray, thixotropic paste, with minimal odor
General Physical Form:	Solid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	No flash point
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Boiling Point	<i>Not Applicable</i>
Vapor Density	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Specific Gravity	1.8
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Solubility in Water	Nil [Details: Partly soluble in water until heat cured]
Volatile Organic Compounds	0 % weight
VOC Less H2O & Exempt Solvents	0 g/l

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

None known

10.2 Materials to avoid

None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: For larger quantities:

Dispose of waste product in a facility permitted to accept chemical waste. For quantities <100 lbs. (50kg): dispose of waste product in a sanitary landfill.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

98-0400-5626-3, 98-0400-5627-1, 98-0400-5631-3

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

STATE REGULATIONS

Contact 3M for more information.

CALIFORNIA PROPOSITION 65

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
CARBON BLACK EXTRACTS	NONE	**Carcinogen
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	SEQ677	**Carcinogen
CARBON BLACK	1333-86-4	**Carcinogen
TITANIUM DIOXIDE	13463-67-7	**Carcinogen

** WARNING: contains a chemical which can cause cancer.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

The components of this material are in compliance with the new chemical notification requirements for the Korean Existing Chemicals Inventory.

The components of this product are listed on the Australian Inventory of Chemical Substances.

The components of this product are listed on the Canadian Domestic Substances List.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 2 Flammability: 1 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

No revision information is available.

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Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(TM) Foam Fast 74 Classic Spray Adhesive

MANUFACTURER: 3M

DIVISION: Industrial Adhesives and Tapes Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 11/01/11

Supersedes Date: 12/08/10

Document Group: 29-1263-2

Product Use:

Intended Use: Adhesive

Specific Use: AEROSOL SPRAY ADHESIVE

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
Dimethyl ether	115-10-6	35 - 45
Pentane	109-66-0	20 - 30
N.J.T.S. Reg No. #04499600-5490P	Trade Secret	20 - 30
Acetone	67-64-1	7 - 13
Napththol spirits	64742-48-9	1 - 5
Isopentane	78-78-4	< 0.2
Epoxy Resin	Trade Secret	< 0.2

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: orange, sweet/fruity odor.

General Physical Form: Gas Aerosol

Immediate health, physical, and environmental hazards: Closed containers exposed to heat from fire may build pressure and explode. Extremely flammable liquid and vapor. Vapors may travel long distances along the ground or floor to an ignition source and flash back. Aerosol container contains flammable material under pressure. May cause allergic skin reaction. May cause

target organ effects.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, and itching.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Intentional concentration and inhalation may be harmful or fatal.

Single exposure, above recommended guidelines, may cause:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

May be absorbed following inhalation and cause target organ effects.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. Get immediate medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

4.2 NOTE TO PHYSICIANS

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature

Flash Point

Flammable Limits(LEL)

No Data Available

-50.00 °F [Test Method: Tagliabue Closed Cup] [Details:
CONDITIONS: (Propellant)]

1.00 % volume

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Closed containers exposed to heat from fire may build pressure and explode. Extremely flammable liquid and vapor. Vapors may travel long distances along the ground or floor to an ignition source and flash back. Aerosol container contains flammable material under pressure.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available.

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode.

6.2. Environmental precautions

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Collect the resulting residue containing solution. Place in a metal container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

Clean-up methods

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Contain spill. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS. Seal the container.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. No smoking while handling this material. Avoid eye contact with vapors, mists, or spray. Avoid contact with oxidizing agents.

7.2 STORAGE

Store away from acids. Store away from heat. Store out of direct sunlight. Store away from oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use with appropriate local exhaust ventilation. Use in an enclosed process area is recommended. Do not use in a confined area or areas with little or no air movement. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment. Do not use in a confined area or areas with little or no air movement. If exhaust ventilation is not adequate, use appropriate respiratory protection. Provide ventilation adequate to control vapor concentrations below recommended exposure limits and/or control spray or mist.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

The following eye protection(s) are recommended: Safety Glasses with side shields

.

8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Nitrile Rubber

Polyvinyl Alcohol (PVA)

.

8.2.3 Respiratory Protection

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges

. Select and use respiratory protection to prevent an inhalation exposure based on the results of an exposure assessment. Consult with your respirator manufacturer for selection of appropriate types of respirators.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Not applicable.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
Acetone	ACGIH	TWA	500 ppm	
Acetone	ACGIH	STEL	750 ppm	
Acetone	OSHA	TWA	2400 mg/m3	
Dimethyl ether	AIHA	TWA	1880 mg/m3	
Dimethyl ether	CMRG	TWA	1000 ppm	
Naphthol spirits	Manufacturer determined	TWA	100 ppm	
Isopentane	ACGIH	TWA	600 ppm	

Pentane	ACGIH	TWA	600 ppm
Pentane	OSHA	TWA	2950 mg/m3

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists
 CMRG: Chemical Manufacturer Recommended Guideline
 OSHA: Occupational Safety and Health Administration
 AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES
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Odor, Color, Grade: General Physical Form: Autoignition temperature Flash Point Flammable Limits(LEL) Boiling Point Density Vapor Density	orange, sweet/fruity odor. Gas Aerosol <i>No Data Available</i> -50.00 °F [<i>Test Method:</i> Tagliabue Closed Cup] [<i>Details:</i> CONDITIONS: (Propellant)] 1.00 % volume <i>Not Applicable</i> 0.725 g/ml >=2.00 [<i>Ref Std:</i> AIR=1]
Specific Gravity pH Melting point	0.725 [<i>Ref Std:</i> WATER=1] <i>No Data Available</i> <i>No Data Available</i>
Solubility in Water Evaporation rate Hazardous Air Pollutants Volatile Organic Compounds	Nil 2.00 [<i>Ref Std:</i> ETHER=1] 0 % weight [<i>Test Method:</i> Calculated] Approximately 66 % weight [<i>Test Method:</i> calculated per CARB title 2] <i>No Data Available</i>
Kow - Oct/Water partition coef Percent volatile VOC Less H2O & Exempt Solvents	Approximately 78 % weight Approximately 563 g/l [<i>Test Method:</i> calculated SCAQMD rule 443.1]
Viscosity	<i>Not Applicable</i>

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

Heat

10.2 Materials to avoid

Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance

Aldehydes
Hydrocarbons
Carbon monoxide
Carbon dioxide
Ketones

Condition

During Combustion
During Combustion
During Combustion
During Combustion
During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Incinerate in a permitted hazardous waste incinerator. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

Facility must be capable of handling aerosol cans. Dispose of empty product containers in a sanitary landfill.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

ID Number	UPC	ID Number	UPC
62-4991-0930-4	00-21200-31320-2	62-4991-0931-2	
62-4991-4921-9		62-4991-4930-0	00-21200-65055-0
62-4991-4935-9	00-00000-00000-0	62-4991-4936-7	00-21200-82242-1
62-4991-4950-8		62-4991-4955-7	
CS-0406-2031-5		CS-0406-6932-0	

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

This material contains a chemical which requires export notification under TSCA Section 12[b]:

<u>Ingredient (Category if applicable)</u>	<u>C.A.S. No</u>	<u>Regulation</u>	<u>Status</u>
Pentane (Pentane)	109-66-0	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable
Pentane	109-66-0	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS. Contact 3M for more information.

Additional Information: ++ synthetic polymers, resins, filler, antioxidant, rosin and u.v. absorber. Not hazardous according to Canadian WHMIS criteria. Non-WHMIS controlling.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 2 Flammability: 4 Reactivity: 1 Special Hazards: None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes:

Section 1: Product name was modified.
Section 1: Product use information was modified.
Section 16: Disclaimer (second paragraph) was modified.
Section 3: Potential effects from skin contact information was modified.
Section 3: Potential effects from inhalation information was modified.
Section 10: Hazardous decomposition or by-products table was modified.
Section 4: First aid for skin contact - decontamination - was modified.

Section 4: First aid for skin contact - medical assistance - was modified.
Section 4: First aid for inhalation - medical assistance - was modified.
Page Heading: Product name was modified.
Section 9: Density information was modified.
Section 9: Vapor density value was modified.
Section 9: Boiling point information was modified.
Section 5: Flammable limits (LEL) information was modified.
Section 5: Autoignition temperature information was modified.
Section 5: Flash point information was modified.
Section 9: Property description for optional properties was modified.
Section 9: Specific gravity information was modified.
Section 9: pH information was modified.
Section 9: Melting point information was modified.
Section 9: Solubility in water text was modified.
Section 1: Initial issue message was modified.
Section 8: Respiratory protection - recommended respirators guide was modified.
Section 9: Flash point information was modified.
Section 9: Flammable limits (LEL) information was modified.
Section 9: Autoignition temperature information was modified.
Section 14: ID Number(s) and/or UPC(s) Template 1 was modified.
Section 2: Ingredient table was modified.
Section 8: Exposure guidelines ingredient information was modified.
Section 15: TSCA section 12[b] information was modified.
Section 4: Note to physicians heading was added.
Section 3: Immediate skin hazard(s) was added.
Section 4: First aid for skin contact - termination of exposure - was added.
Section 4: First aid for skin contact - handling - was added.
Section 4: Note to physicians was added.
Section 16: Web address was added.
Section 1: Address was added.
Copyright was added.
Company logo was added.
Telephone header was added.
Company Telephone was added.
Section 1: Emergency phone information was added.
Section 1: Emergency phone information was deleted.
Company Logo was deleted.
Copyright was deleted.
Section 16: Web address heading was deleted.
Section 1: Address line 1 was deleted.
Section 1: Address line 2 was deleted.
Section 3: Carcinogenicity table was deleted.
Section 3: Carcinogenicity heading was deleted.
Section 15: California proposition 65 ingredient information was deleted.
Section 15: California proposition 65 heading was deleted.
Section 15: California proposition 65 cancer warning was deleted.

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(TM) General Purpose Adhesive Cleaner, PN 08984, 08986
MANUFACTURER: 3M
DIVISION: Automotive Aftermarket

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 11/08/2005
Supersedes Date: 06/03/2004

Document Group: 10-5933-6

Product Use:

Intended Use: Automotive
Specific Use: Adhesive Remover

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
XYLENE	1330-20-7	30 - 60
NONANE (ALL ISOMERS)	Mixture	10 - 40
OCTANES (ALL ISOMERS)	Mixture	10 - 30
ETHYLBENZENE	100-41-4	5 - 20
TOLUENE	108-88-3	0.5 - 1.5
BENZENE	71-43-2	<= 0.1

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Colorless, sharp odor of aromatic solvent

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: Flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back. Contains a chemical or chemicals which can cause cancer. May cause target organ effects. Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Inhalation:

Intentional concentration and inhalation may be harmful or fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May be absorbed following inhalation and cause target organ effects.

Ingestion:

Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored skin (cyanosis), and may be fatal.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause:

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Class Description</u>	<u>Regulation</u>
BENZENE	71-43-2	Group 1	International Agency for Research on Cancer
BENZENE	71-43-2	Known human carcinogen	National Toxicology Program Carcinogens
BENZENE	71-43-2	Cancer hazard	OSHA Carcinogens
ETHYLBENZENE	100-41-4	Group 2B	International Agency for Research on Cancer

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get immediate medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	No Data Available
Flash Point	52.00 °F [Test Method: Closed Cup]
Flammable Limits - LEL	0.90 % volume
Flammable Limits - UEL	6.00 % volume
OSHA Flammability Classification:	Class IB Flammable Liquid

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Cover spill area with a fire-extinguishing foam. An aqueous film

forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS. Collect the resulting residue containing solution. Place in a metal container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Ground containers securely when transferring contents. Wear low static or properly grounded shoes. Do not ingest. Avoid static discharge. Avoid eye contact with vapors, mists, or spray. Avoid contact with oxidizing agents. Avoid breathing of vapors. Avoid skin contact. For industrial or professional use only. Keep out of the reach of children.

7.2 STORAGE

Store away from acids. Store away from heat. Store out of direct sunlight. Keep container in well-ventilated area. Keep container tightly closed. Store away from areas where product may come into contact with food or pharmaceuticals. Store away from oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Provide appropriate local exhaust ventilation on open containers. If exhaust ventilation is not available, use appropriate respiratory protection. Do not use in a confined area or areas with little or no air movement. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control dust, fume, or airborne particles. If ventilation is not adequate, use respiratory protection equipment.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

The following eye protection(s) are recommended: Safety Glasses with side shields, Indirect Vented Goggles.

8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Fluoroelastomer (Viton), Polyvinyl Alcohol (PVA), Polyethylene/Ethylene Vinyl Alcohol.

8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges. Consult the current 3M

Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
BENZENE	ACGIH	TWA	0.5 ppm	Skin Notation*; Table A1
BENZENE	ACGIH	STEL	2.5 ppm	Skin Notation*; Table A1
BENZENE	OSHA	TWA	1 ppm	Standard Appendix
BENZENE	OSHA	STEL	5 ppm	Standard Appendix
ETHYLBENZENE	ACGIH	TWA	100 ppm	Table A3
ETHYLBENZENE	ACGIH	STEL	125 ppm	Table A3
ETHYLBENZENE	OSHA	TWA	100 ppm	Table Z-1A
ETHYLBENZENE	OSHA	STEL	125 ppm	Table Z-1A
TOLUENE	ACGIH	TWA	50 ppm	Skin Notation*; Table A4
TOLUENE	CMRG	STEL	75 ppm	Skin Notation*
TOLUENE	OSHA	TWA, Vacated	100 ppm	
TOLUENE	OSHA	STEL, Vacated	150 ppm	
TOLUENE	OSHA	TWA	200 ppm	Table Z-2
TOLUENE	OSHA	CEIL	300 ppm	Table Z-2
XYLENE	ACGIH	TWA	100 ppm	Table A4
XYLENE	ACGIH	STEL	150 ppm	Table A4
XYLENE	OSHA	TWA	100 ppm	Table Z-1A
XYLENE	OSHA	STEL	150 ppm	Table Z-1A

* Substance(s) refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

VAC Vacated PEL: Vacated Permissible Exposure Limits [PEL] are enforced as the OSHA PEL in some states. Check with your local regulatory agency.

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Odor, Color, Grade:

Colorless, sharp odor of aromatic solvent

General Physical Form:

Liquid

Autoignition temperature

No Data Available

Flash Point

52.00 °F [*Test Method:* Closed Cup]

Flammable Limits - LEL

0.90 % volume

Flammable Limits - UEL

6.00 % volume

Boiling point

245.00 °F

Density

6.678 - 6.873 lb/gal

Vapor Density

>=3.00 [*Ref Std:* AIR=1]

Vapor Pressure

15 mmHg [*Details:* CONDITIONS: @ 100F]

Specific Gravity

0.808 [*Ref Std:* WATER=1]

pH

Not Applicable

Melting point	Not Applicable
Solubility in Water	Negligible
Evaporation rate	Approximately 7.1 [Ref Std: ETHER=1]
Volatile Organic Compounds	808 g/l [Test Method: calculated SCAQMD rule 443.1]
Volatile Organic Compounds	6.74 lb/gal
Percent volatile	100 % weight
VOC Less H2O & Exempt Solvents	808 g/l [Test Method: calculated SCAQMD rule 443.1]
Viscosity	3 centipoise [Test Method: Brookfield]

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Heat; Sparks and/or flames; Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified
Toxic Vapor, Gas, Particulate	Not Specified

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Incinerate in a permitted hazardous waste incinerator. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable), D018 (Benzene)

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

62-4787-6509-2, 62-4787-8509-0, 62-4787-9509-9

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
XYLENE	1330-20-7	30 - 60
ETHYLBENZENE	100-41-4	5 - 20

STATE REGULATIONS

Contact 3M for more information.

CALIFORNIA PROPOSITION 65

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
BENZENE	71-43-2	*Male reproductive toxin
BENZENE	71-43-2	**Carcinogen
BENZENE	71-43-2	*Developmental Toxin
ETHYLBENZENE	100-41-4	**Carcinogen
TOLUENE	108-88-3	*Developmental Toxin

* WARNING: contains a chemical or chemicals which can cause birth defects or other reproductive harm.

** WARNING: contains a chemical which can cause cancer.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 2 **Flammability:** 3 **Reactivity:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 2 **Flammability:** 3 **Reactivity:** 0 **Protection:** B

Hazardous Material Identification System (HMIS(r)) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

Revision Changes:

Copyright was modified.

Section 3: Immediate physical hazard(s) was modified.

Section 3: Potential effects from skin contact information was modified.

Section 3: Potential effects from inhalation information was modified.

Section 3: Potential effects from ingestion information was modified.

Section 5: Unusual fire and explosion hazard information was modified.

Section 7: Handling information was modified.

Section 7: Storage information was modified.

Section 8: Engineering controls information was modified.

Section 4: First aid for skin contact - decontamination - was modified.

Section 4: First aid for skin contact - medical assistance - was modified.

Section 10: Materials and conditions to avoid physical property was modified.

Section 3: Immediate other hazard(s) was modified.

Section 2: Ingredient table was modified.

Section 3: Other health effects information was modified.

Section 15: Inventories information was modified.

Section 15: EPCRA 313 information was modified.

Section 15: California proposition 65 ingredient information was modified.
Section 8: Exposure guidelines ingredient information was modified.
Section 9: Density information was modified.
Section 9: Property description for optional properties was modified.
Section 9: Specific gravity information was modified.
Section 4: First aid for skin contact - termination of exposure - was added.
Section 4: First aid for skin contact - handling - was added.

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Safety Data Sheet

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Supersedes Date: 09/09/14

SECTION 1: Identification

1.1. Product identifier

3M™ Hi-Strength Spray Adhesive 90 (aerosol)

Product Identification Numbers

62-4942-4730-7, 62-4942-4920-4, 62-4942-4921-2, 62-4942-4922-0, 62-4942-4925-3, 62-4942-4930-3, 62-4942-4935-2, 62-4942-4950-1, 62-4942-4955-0, 62-4942-4970-9, 62-4942-4975-8, CS-0406-7111-0

1.2. Recommended use and restrictions on use

Recommended use

Aerosol adhesive. Recommended for industrial and professional use., hi-strength aerosol adhesive

1.3. Supplier's details

MANUFACTURER: 3M
DIVISION: Industrial Adhesives and Tapes Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Flammable Aerosol: Category 1.

Gas Under Pressure: Liquefied gas.

Serious Eye Damage/Irritation: Category 2B.

Simple Asphyxiant.

Specific Target Organ Toxicity (single exposure): Category 1.

Specific Target Organ Toxicity (central nervous system): Category 3.

Specific Target Organ Toxicity (respiratory irritation): Category 3.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Gas cylinder | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Causes eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Precautionary Statements

General:

Keep out of reach of children.

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed: Call a POISON CENTER or doctor/physician.
Specific treatment (see Notes to Physician on this label).

Storage:

Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Keep container tightly closed.
Store locked up in a well-ventilated place.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified

Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Dimethyl ether	115-10-6	35 - 45 Trade Secret *
Methyl acetate	79-20-9	25 - 35 Trade Secret *
Nonvolatile components (N.J.T.S. Reg. No. 0449960-6448P)	Trade Secret*	10 - 20 Trade Secret *
Cyclohexane	110-82-7	7 - 13 Trade Secret *
1,1-Difluoroethane	75-37-6	1 - 5 Trade Secret *
Pentane	109-66-0	1 - 5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. Get medical attention.

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products**Substance**

Carbon monoxide

Carbon dioxide

Irritant Vapors or Gases

Condition

During Combustion

During Combustion

During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Close cylinder. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Pentane	109-66-0	ACGIH	TWA:1000 ppm	
Pentane	109-66-0	OSHA	TWA:2950 mg/m3(1000 ppm)	
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	OSHA	TWA:1050 mg/m3(300 ppm)	
Dimethyl ether	115-10-6	AIHA	TWA:1880 mg/m3(1000 ppm)	
Dimethyl ether	115-10-6	CMRG	TWA:1000 ppm	
1,1-Difluoroethane	75-37-6	AIHA	TWA:2700 mg/m3(1000 ppm)	
1,1-Difluoroethane	75-37-6	CMRG	TWA:1000 ppm	
Methyl acetate	79-20-9	ACGIH	TWA:200 ppm;STEL:250 ppm	
Methyl acetate	79-20-9	OSHA	TWA:610 mg/m3(200 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Butyl Rubber
Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece supplied-air respirator

Organic vapor respirators may have short service life.

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Gas
Specific Physical Form:	Aerosol
Odor, Color, Grade:	clear, sweet fruity odor
Odor threshold	<i>No Data Available</i>
pH	<i>No Data Available</i>
Melting point	<i>Not Applicable</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	-42.00 °F [<i>Test Method:</i> Tagliabue Closed Cup]
Evaporation rate	1.9 [<i>Ref Std:</i> ETHER=1]
Flammability (solid, gas)	Flammable Aerosol: Category 1.
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Density	2.97 [<i>Ref Std:</i> AIR=1]
Density	0.726 g/ml
Specific Gravity	0.726 [<i>Ref Std:</i> WATER=1]
Solubility in Water	Nil
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>

Autoignition temperature	No Data Available
Decomposition temperature	Not Applicable
Viscosity	Not Applicable
Hazardous Air Pollutants	<=0 % weight [Test Method: Calculated]
Molecular weight	No Data Available
VOC Less H2O & Exempt Solvents	<=55 % [Test Method: calculated per CARB title 2]

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE > 50 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Dimethyl ether	Inhalation-Gas (4 hours)	Rat	LC50 164,000 ppm
Methyl acetate	Dermal	Rat	LD50 > 2,000 mg/kg
Methyl acetate	Inhalation-Vapor (4 hours)	Rat	LC50 > 49 mg/l
Methyl acetate	Ingestion	Rat	LD50 > 5,000 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Nonvolatile components (N.J.T.S. Reg. No. 0449960-6448P)	Dermal		LD50 estimated to be > 5,000 mg/kg
Nonvolatile components (N.J.T.S. Reg. No. 0449960-6448P)	Ingestion	Rat	LD50 > 34,000 mg/kg
Pentane	Dermal	Rabbit	LD50 3,000 mg/kg
Pentane	Inhalation-Vapor (4 hours)	Rat	LC50 > 18 mg/l
Pentane	Ingestion	Rat	LD50 > 2,000 mg/kg
1,1-Difluoroethane	Inhalation-Gas (4 hours)	Rat	LC50 > 437,000 ppm
1,1-Difluoroethane	Ingestion	Rat	LD50 > 1,500 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
------	---------	-------

Methyl acetate	Rabbit	No significant irritation
Cyclohexane	Rabbit	Mild irritant
Pentane	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Methyl acetate	Rabbit	Moderate irritant
Cyclohexane	Rabbit	Mild irritant
Pentane	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Methyl acetate	Human	Not sensitizing
Pentane	Guinea pig	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Dimethyl ether	In Vitro	Not mutagenic
Dimethyl ether	In vivo	Not mutagenic
Methyl acetate	In Vitro	Not mutagenic
Methyl acetate	In vivo	Not mutagenic
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Pentane	In vivo	Not mutagenic
Pentane	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,1-Difluoroethane	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,1-Difluoroethane	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Dimethyl ether	Inhalation	Rat	Not carcinogenic
1,1-Difluoroethane	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
Dimethyl ether	Inhalation	Not toxic to development	Rat	NOAEL 40,000 ppm	during organogenesis
Cyclohexane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 6.9 mg/l	2 generation
Pentane	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	during organogenesis

Pentane	Inhalation	Not toxic to development	Rat	NOAEL 30 mg/l	s during organogenesis
1,1-Difluoroethane	Inhalation	Not toxic to development	Rat	NOAEL 50,000 ppm	s during organogenesis

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Dimethyl ether	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 10,000 ppm	30 minutes
Dimethyl ether	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 100,000 ppm	5 minutes
Methyl acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Methyl acetate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
Methyl acetate	Inhalation	blindness	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Methyl acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Pentane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
Pentane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not available	not available
Pentane	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL Not available	not available
Pentane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	not available
1,1-Difluoroethane	Inhalation	cardiac sensitization	Causes damage to organs	Human and animal	NOAEL Not available	poisoning and/or abuse
1,1-Difluoroethane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL 100,000 ppm	
1,1-Difluoroethane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not available	not available

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Dimethyl ether	Inhalation	hematopoietic	Some positive data exist, but the	Rat	NOAEL	2 years

		system	data are not sufficient for classification		25,000 ppm	
Dimethyl ether	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 20,000 ppm	30 weeks
Methyl acetate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	28 days
Methyl acetate	Inhalation	endocrine system hematopoietic system liver immune system kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 6.1 mg/l	28 days
Cyclohexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
Pentane	Inhalation	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Pentane	Inhalation	heart skin endocrine system bone, teeth, nails, and/or hair hematopoietic system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system	All data are negative	Rat	NOAEL 20 mg/l	13 weeks
Pentane	Ingestion	kidney and/or bladder	All data are negative	Rat	NOAEL 2,000 mg/kg/day	28 days
1,1-Difluoroethane	Inhalation	hematopoietic system kidney and/or bladder respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 25,000 ppm	2 years

Aspiration Hazard

Name	Value
Cyclohexane	Aspiration hazard
Pentane	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. The facility should be equipped to handle gaseous waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Cyclohexane	110-82-7	Trade Secret 7 - 13

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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Safety Data Sheet

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Document Group:	07-7835-7	Version Number:	13.00
Issue Date:	04/24/15	Supersedes Date:	07/05/13

SECTION 1: Identification

1.1. Product identifier

3M(TM) Repositionable Spray Adhesive 75

Product Identification Numbers

62-4669-4830-4, 62-4669-4835-3, 62-4669-4836-1, AS-0105-9409-6

1.2. Recommended use and restrictions on use

Recommended use

aerosol adhesive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Flammable Aerosol: Category 1.

Serious Eye Damage/Irritation: Category 2A.

Skin Corrosion/Irritation: Category 2.

Simple Asphyxiant.

Specific Target Organ Toxicity (single exposure): Category 1.

Specific Target Organ Toxicity (central nervous system): Category 3.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Exclamation mark | Health Hazard |

Pictograms

**Hazard Statements**

Extremely flammable aerosol.

Causes serious eye irritation.

Causes skin irritation.

May cause drowsiness or dizziness.

May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Precautionary Statements**General:**

Keep out of reach of children.

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Do not spray on an open flame or other ignition source.

Pressurized container: Do not pierce or burn, even after use.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves and eye/face protection.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

IF exposed: Call a POISON CENTER or doctor/physician.

Specific treatment (see Notes to Physician on this label).

Storage:

Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.

Keep container tightly closed.

Store locked up in a well-ventilated place.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified

Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Acetone	67-64-1	30 - 40 Trade Secret *
Isobutane	75-28-5	20 - 30 Trade Secret *
Heptane isomers	64742-49-0	20 - 30 Trade Secret *
Propane	74-98-6	7 - 13 Trade Secret *
Non-volatile components N.J.T.S. Reg No. 04499600-6146P	Trade Secret*	7 - 13 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

Use a fire fighting agent suitable for the surrounding fire. Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products**Substance**

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and

prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Heptane isomers	64742-49-0	CMRG	TWA:50 ppm	
Acetone	67-64-1	ACGIH	TWA:500 ppm;STEL:750 ppm	A4: Not class. as human carcin
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
Propane	74-98-6	ACGIH	Limit value not established:	
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	
Isobutane	75-28-5	ACGIH	STEL:1000 ppm	
Natural gas	75-28-5	ACGIH	Limit value not established:	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Butyl Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece supplied-air respirator

Organic vapor respirators may have short service life.

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	in aerosol, Mild Solvent Odor/Clear-light yellow
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>No Data Available</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	-50.00 °F [<i>Test Method:</i> Tagliabue Closed Cup] [<i>Details:</i> CONDITIONS: Propellant]
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Density	<i>No Data Available</i>

Density	0.673 g/ml
Specific Gravity	0.673 [Ref Std: WATER=1]
Solubility in Water	Nil
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	Not Applicable
Hazardous Air Pollutants	0 % weight [Test Method: Calculated]
Volatile Organic Compounds	<=385 g/l [Test Method: calculated SCAQMD rule 443.1] [Details: Material VOC]
Volatile Organic Compounds	<=57.2 % [Test Method: calculated per CARB title 2]
Percent volatile	Approximately 91 % weight

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Substance

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Isobutane	Inhalation-Gas (4 hours)	Rat	LC50 276,000 ppm
Heptane isomers	Dermal	Rabbit	LD50 > 3,160 mg/kg
Heptane isomers	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.7 mg/l
Heptane isomers	Ingestion	Rat	LD50 > 5,000 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Non-volatile components N.J.T.S. Reg No. 04499600-6146P	Dermal		LD50 estimated to be > 5,000 mg/kg
Non-volatile components N.J.T.S. Reg No. 04499600-6146P	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Acetone	Mouse	Minimal irritation
Isobutane	Professional judgement	No significant irritation
Heptane isomers	Rabbit	Irritant
Propane	Rabbit	Minimal irritation
Non-volatile components N.J.T.S. Reg No. 04499600-6146P	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Acetone	Rabbit	Severe irritant
Isobutane	Professional judgement	No significant irritation
Heptane isomers	Rabbit	Mild irritant
Propane	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Heptane isomers	Guinea pig	Not sensitizing
Non-volatile components N.J.T.S. Reg No. 04499600-6146P	Professional judgement	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Isobutane	In Vitro	Not mutagenic
Heptane isomers	In Vitro	Not mutagenic
Propane	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Heptane isomers	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
Acetone	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Acetone	Ingestion	Some positive male reproductive data	Rat	NOAEL	13 weeks

		exist, but the data are not sufficient for classification		1,700 mg/kg/day	
Acetone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Isobutane	Inhalation	cardiac sensitization	Causes damage to organs	Multiple animal species	NOAEL Not available	
Isobutane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Isobutane	Inhalation	respiratory irritation	All data are negative	Mouse	NOAEL Not available	
Heptane isomers	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
Heptane isomers	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Acetone	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks

Acetone	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Isobutane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 4,500 ppm	13 weeks

Aspiration Hazard

Name	Value
Heptane isomers	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 Flammability: 4 Instability: 0 Special Hazards: None

Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

Scotchgard™ Tile, Stone and Grout Penetrating Sealer (PM-3000, PM-3006, PM-3006S, PM-3000C)

Product Identification Numbers

70-0050-2125-1, 70-0050-3460-1, 70-0050-3483-3, 70-0051-7119-7, 70-0051-7120-5, 70-0051-7121-3, 70-0051-9868-7

1.2. Recommended use and restrictions on use

Recommended use

Porous material protection

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	New Business Ventures
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2. Label elements

Signal word

Not applicable.

Symbols

Not applicable.

Pictograms

Not applicable.

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Water	7732-18-5	80 - 90
Dipropyleneglycol monomethylether	34590-94-8	5 - 10
Fluorochemical Urethane (NJTS Reg. No. 04499600-7008)	Trade Secret*	5 - 7

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you are concerned, get medical advice.

Skin Contact:

Wash with soap and water. If you are concerned, get medical advice.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Exposure to extreme heat can give rise to thermal decomposition.

Hazardous Decomposition or By-Products

Substance

Carbonyl Fluoride
Carbon monoxide
Carbon dioxide
Hydrogen Fluoride
Toxic Vapor, Gas, Particulate

Condition

During Combustion
During Combustion
During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

When fire fighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Observe precautions from other sections.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Do not breathe thermal decomposition products. Keep out of reach of children. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Dipropyleneglycol monomethylether	34590-94-8	Amer Conf of Gov. Indust. Hyg.	TWA:100 ppm;STEL:150 ppm	Skin Notation
Dipropyleneglycol monomethylether	34590-94-8	Chemical Manufacturer Rec Guid	TWA:10 ppm;STEL:75 ppm	
Dipropyleneglycol monomethylether	34590-94-8	US Dept of Labor - OSHA	TWA:600 mg/m3(100 ppm)	Skin Notation

Amer Conf of Gov. Indust. Hyg. : American Conference of Governmental Industrial Hygienists

American Indust. Hygiene Assoc : American Industrial Hygiene Association

Chemical Manufacturer Rec Guid : Chemical Manufacturer's Recommended Guidelines

US Dept of Labor - OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls**8.2.1. Engineering controls**

Provide appropriate local exhaust when product is heated. Use general dilution ventilation and/or local exhaust ventilation to

control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

None required.

Skin/hand protection

No chemical protective gloves are required.

Respiratory protection

During heating:

Use a positive pressure supplied-air respirator if there is a potential for over exposure from an uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Emulsion
Odor, Color, Grade:	White skim milk emulsion.
Odor threshold	<i>No Data Available</i>
pH	6 - 8
Melting point	<i>Not Applicable</i>
Boiling Point	100 °C
Flash Point	No flash point
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	<=18 mmHg [@ 20 °C]
Vapor Density	<i>No Data Available</i>
Density	1.01 - 1.017 g/ml
Specific Gravity	1.01 - 1.017 [Ref Std: WATER=1]
Solubility in Water	Complete [Details: Emulsion]
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>Not Applicable</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	1.7 - 1.8 centipoise
Volatile Organic Compounds	80.3 g/l [Test Method: calculated SCAQMD rule 443.1]
Percent volatile	7.3 %

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Not determined

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
------------------	------------------

None known.	
-------------	--

Refer to section 5.2 for hazardous decomposition products during combustion.

Extreme heat arising from situations such as misuse or equipment failure can generate hydrogen fluoride as a decomposition product.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

No health effects are expected.

Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation.

Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion	Rat	LD50 > 2,000 mg/kg
Dipropylene glycol monomethylether	Dermal	Rabbit	LD50 > 19,000 mg/kg
Dipropylene glycol monomethylether	Inhalation-Dust/Mist	Rat	LC50 > 50 mg/l
Dipropylene glycol monomethylether	Ingestion	Rat	LD50 5,180 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value

Respiratory Sensitization

Name	Species	Value

Germ Cell Mutagenicity

Name	Route	Value

Carcinogenicity

Name	Route	Species	Value

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration

Aspiration Hazard

Name	Value

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

This material contains one or more substances that are subject to a TSCA Consent Order. Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

This material contains a chemical which requires export notification under TSCA Section 12[b]:

<u>Ingredient (Category if applicable)</u>	<u>C.A.S. No</u>	<u>Regulation</u>	<u>Status</u>
Fluorochemical Urethane (NJTS Reg. No. 04499600-7008)	Trade Secret	Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals	Applicable

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 **Flammability:** 0 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 3 **Flammability:** 0 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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SECTION 1: Identification

1.1. Product identifier

3M(TM) Spra-ment(TM) Craft and Display Adhesive 6060

Product Identification Numbers

62-4938-3730-6, 62-4938-4826-1, 62-4938-4830-3, 70-0051-8329-1

1.2. Recommended use and restrictions on use

Recommended use

Adhesive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Stationery and Office Supplies Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Flammable Aerosol: Category 1.

Serious Eye Damage/Irritation: Category 2A.

Reproductive Toxicity: Category 2.

Simple Asphyxiant.

Specific Target Organ Toxicity (single exposure): Category 1.

Specific Target Organ Toxicity (central nervous system): Category 3.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Extremely flammable aerosol.

Causes serious eye irritation.

May cause drowsiness or dizziness.

Suspected of damaging fertility or the unborn child.

May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Precautionary Statements

General:

Keep out of reach of children.

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Do not spray on an open flame or other ignition source.

Pressurized container: Do not pierce or burn, even after use.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear eye/face protection.

Wear protective gloves.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF exposed: Call a POISON CENTER or doctor/physician.

Specific treatment (see Notes to Physician on this label).

Storage:

Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified

May cause frostbite.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
NON-HAZARDOUS INGREDIENTS	Trade Secret*	10 - 35
ACETONE	67-64-1	20 - 30 Trade Secret *
PROPANE	74-98-6	15 - 25 Trade Secret *
CYCLOHEXANE	110-82-7	10 - 20 Trade Secret *
2-METHYLPENTANE	107-83-5	3 - 7 Trade Secret *
PENTANE	109-66-0	1 - 5 Trade Secret *
2,2-DIMETHYLBUTANE	75-83-2	1 - 3 Trade Secret *
2,3-DIMETHYLBUTANE	79-29-8	1 - 3 Trade Secret *
3-METHYLPENTANE	96-14-0	1 - 3 Trade Secret *
LIMESTONE	1317-65-3	0.5 - 1.5
HEXANE	110-54-3	0 0.7668 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. Get medical attention.

Skin Contact:

Thaw frosted skin with lukewarm water. Do not rub affected area. Get medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products**Substance**

Aldehydes

Hydrocarbons

Carbon monoxide

Condition

During Combustion

During Combustion

During Combustion

Carbon dioxide

During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR - AFFF type foam is recommended. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with detergent and water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
2-METHYLPENTANE	107-83-5	ACGIH	TWA:500 ppm;STEL:1000 ppm	
PENTANE	109-66-0	ACGIH	TWA:1000 ppm	
PENTANE	109-66-0	OSHA	TWA:2950 mg/m3(1000 ppm)	
HEXANE	110-54-3	ACGIH	TWA:50 ppm	Skin Notation
HEXANE	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
CYCLOHEXANE	110-82-7	ACGIH	TWA:100 ppm	
CYCLOHEXANE	110-82-7	OSHA	TWA:1050 mg/m3(300 ppm)	

LIMESTONE	1317-65-3	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
ACETONE	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
ACETONE	67-64-1	ACGIH	TWA:500 ppm;STEL:750 ppm	A4: Not class. as human carcin
PROPANE	74-98-6	ACGIH	Limit value not established:	
PROPANE	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	
2,2-DIMETHYLBUTANE	75-83-2	ACGIH	TWA:500 ppm;STEL:1000 ppm	
2,3-DIMETHYLBUTANE	79-29-8	ACGIH	TWA:500 ppm;STEL:1000 ppm	
3-METHYLPENTANE	96-14-0	ACGIH	TWA:500 ppm;STEL:1000 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors

Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

Thermal hazards

Wear cold insulating gloves/face shield/eye protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Gas
Specific Physical Form:	Aerosol
Odor, Color, Grade:	clear, sweet fruity odor
Odor threshold	No Data Available
pH	No Data Available
Melting point	No Data Available
Boiling Point	Not Applicable
Flash Point	-42.00 °F [Test Method: Tagliabue Closed Cup]
Evaporation rate	1.90 [Ref Std: ETHER=1]
Flammability (solid, gas)	Flammable Aerosol: Category 1.
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Density	2.97 [Ref Std: AIR=1]
Specific Gravity	0.726 [Ref Std: WATER=1]
Solubility in Water	Nil
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	Not Applicable
Viscosity	Not Applicable
Hazardous Air Pollutants	<=.4 % weight [Test Method: Calculated]
Volatile Organic Compounds	Approximately 51 % [Test Method: calculated SCAQMD rule 443.1]
Percent volatile	<=75 % weight

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Substance

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Intentional concentration and inhalation may be harmful or fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause target organ effects after inhalation.

Skin Contact:

Frostbite: Signs/symptoms may include intense pain, discoloration of skin, and tissue destruction.

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye Contact:

Frostbite: Signs/symptoms may include intense pain, clouding of the cornea, redness, swelling, and blindness.

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause target organ effects after ingestion.

Target Organ Effects:

Single exposure may cause:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
PROPANE	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
ACETONE	Dermal	Rabbit	LD50 > 15,688 mg/kg
ACETONE	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
ACETONE	Ingestion	Rat	LD50 5,800 mg/kg
CYCLOHEXANE	Dermal	Rat	LD50 > 2,000 mg/kg
CYCLOHEXANE	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
CYCLOHEXANE	Ingestion	Rat	LD50 6,200 mg/kg
2-METHYLPENTANE	Dermal		LD50 estimated to be > 5,000 mg/kg
2-METHYLPENTANE	Inhalation-Vapor		LC50 estimated to be > 50 mg/l
2-METHYLPENTANE	Ingestion		LD50 estimated to be > 5,000 mg/kg
3-METHYLPENTANE	Dermal		LD50 estimated to be > 5,000 mg/kg
3-METHYLPENTANE	Inhalation-Vapor		LC50 estimated to be > 50 mg/l
3-METHYLPENTANE	Ingestion		LD50 estimated to be > 5,000 mg/kg
2,2-DIMETHYLBUTANE	Dermal		LD50 estimated to be > 5,000 mg/kg
2,2-DIMETHYLBUTANE	Inhalation-Vapor		LC50 estimated to be > 50 mg/l
2,2-DIMETHYLBUTANE	Ingestion		LD50 estimated to be > 5,000 mg/kg
2,3-DIMETHYLBUTANE	Dermal		LD50 estimated to be > 5,000 mg/kg
2,3-DIMETHYLBUTANE	Inhalation-Vapor		LC50 estimated to be > 50 mg/l
2,3-DIMETHYLBUTANE	Ingestion		LD50 estimated to be > 5,000 mg/kg
NON-HAZARDOUS INGREDIENTS	Ingestion	Rat	LD50 > 34,000 mg/kg
PENTANE	Dermal	Rabbit	LD50 3,000 mg/kg
PENTANE	Inhalation-Vapor (4 hours)	Rat	LC50 > 18 mg/l
PENTANE	Ingestion	Rat	LD50 > 2,000 mg/kg
LIMESTONE	Dermal	Rat	LD50 > 2,000 mg/kg
LIMESTONE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3.0 mg/l
LIMESTONE	Ingestion	Rat	LD50 6,450 mg/kg
HEXANE	Dermal	Rabbit	LD50 > 2,000 mg/kg
HEXANE	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
HEXANE	Ingestion	Rat	LD50 > 28,700 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
PROPANE	Rabbit	Minimal irritation
ACETONE	Mouse	Minimal irritation
CYCLOHEXANE	Rabbit	Mild irritant
2-METHYLPENTANE		Mild irritant
3-METHYLPENTANE		Mild irritant
2,2-DIMETHYLBUTANE		Mild irritant
2,3-DIMETHYLBUTANE		Mild irritant
PENTANE	Rabbit	Minimal irritation
LIMESTONE	Rabbit	No significant irritation
HEXANE	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
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PROPANE	Rabbit	Mild irritant
ACETONE	Rabbit	Severe irritant
CYCLOHEXANE	Rabbit	Mild irritant
2-METHYLPENTANE		Moderate irritant
3-METHYLPENTANE		Moderate irritant
2,2-DIMETHYLBUTANE		Moderate irritant
2,3-DIMETHYLBUTANE		Moderate irritant
PENTANE	Rabbit	Mild irritant
LIMESTONE	Rabbit	No significant irritation
HEXANE	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
PENTANE	Guinea pig	Not sensitizing
HEXANE	Human	Not sensitizing

Respiratory Sensitization

Name	Species	Value
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Germ Cell Mutagenicity

Name	Route	Value
PROPANE	In Vitro	Not mutagenic
ACETONE	In vivo	Not mutagenic
ACETONE	In Vitro	Some positive data exist, but the data are not sufficient for classification
CYCLOHEXANE	In Vitro	Not mutagenic
CYCLOHEXANE	In vivo	Some positive data exist, but the data are not sufficient for classification
PENTANE	In vivo	Not mutagenic
PENTANE	In Vitro	Some positive data exist, but the data are not sufficient for classification
HEXANE	In Vitro	Not mutagenic
HEXANE	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
ACETONE	Not Specified	Multiple animal species	Not carcinogenic
HEXANE	Dermal	Mouse	Not carcinogenic
HEXANE	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
ACETONE	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
ACETONE	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
ACETONE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
CYCLOHEXANE	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
CYCLOHEXANE	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
CYCLOHEXANE	Inhalation	Some positive developmental data exist, but the data are not sufficient for	Rat	NOAEL 6.9 mg/l	2 generation

		classification			
PENTANE	Inhalation	Not toxic to female reproduction	Rat	NOAEL 20 mg/l	13 weeks
PENTANE	Inhalation	Not toxic to male reproduction	Rat	NOAEL 20 mg/l	13 weeks
PENTANE	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	during organogenesis
PENTANE	Inhalation	Not toxic to development	Rat	NOAEL 30 mg/l	during organogenesis
LIMESTONE	Ingestion	Not toxic to development	Rat	NOAEL 625 mg/kg/day	prematings & during gestation
HEXANE	Ingestion	Not toxic to development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
HEXANE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during gestation
HEXANE	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
HEXANE	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
PROPANE	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
PROPANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
PROPANE	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
ACETONE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ACETONE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
ACETONE	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
ACETONE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
ACETONE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
CYCLOHEXANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
CYCLOHEXANE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
2-METHYLPENTANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
2-METHYLPENTANE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
2-METHYLPENTANE	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL Not available	
3-METHYLPENTANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
3-METHYLPENTANE	Inhalation	respiratory irritation	Some positive data exist, but the		NOAEL Not	

			data are not sufficient for classification		available	
3-METHYLPENTANE	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL Not available	
2,2-DIMETHYLBUTANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
2,2-DIMETHYLBUTANE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
2,2-DIMETHYLBUTANE	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL Not available	
2,3-DIMETHYLBUTANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
2,3-DIMETHYLBUTANE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
2,3-DIMETHYLBUTANE	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL Not available	
PENTANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
PENTANE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not available	not available
PENTANE	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL Not available	not available
LIMESTONE	Inhalation	respiratory system	All data are negative	Rat	NOAEL 0.812 mg/l	90 minutes
HEXANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
HEXANE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
HEXANE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24.6 mg/l	8 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
ACETONE	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
ACETONE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
ACETONE	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
ACETONE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
ACETONE	Inhalation	heart liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
ACETONE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
ACETONE	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
ACETONE	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks

ACETONE	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
ACETONE	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
ACETONE	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
ACETONE	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
ACETONE	Ingestion	skin bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
CYCLOHEXANE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
CYCLOHEXANE	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
CYCLOHEXANE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
CYCLOHEXANE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
CYCLOHEXANE	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
2-METHYLPENTANE	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 5.3 mg/l	14 weeks
2-METHYLPENTANE	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	8 weeks
2-METHYLPENTANE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2,000 mg/kg	28 days
3-METHYLPENTANE	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 5.3 mg/l	14 weeks
3-METHYLPENTANE	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	8 weeks
3-METHYLPENTANE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2,000 mg/kg	28 days
2,2-DIMETHYLBUTANE	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 5.3 mg/l	14 weeks
2,2-DIMETHYLBUTANE	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	8 weeks
2,2-DIMETHYLBUTANE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2,000 mg/kg	28 days
2,3-DIMETHYLBUTANE	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 5.3 mg/l	14 weeks
2,3-DIMETHYLBUTANE	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	8 weeks
2,3-DIMETHYLBUTANE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2,000 mg/kg	28 days
PENTANE	Inhalation	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
PENTANE	Inhalation	heart skin endocrine system bone, teeth, nails, and/or hair hematopoietic	All data are negative	Rat	NOAEL 20 mg/l	13 weeks

		system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system				
PENTANE	Ingestion	kidney and/or bladder	All data are negative	Rat	NOAEL 2,000 mg/kg/day	28 days
LIMESTONE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
HEXANE	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
HEXANE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
HEXANE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 months
HEXANE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.76 mg/l	6 months
HEXANE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 35.2 mg/l	13 weeks
HEXANE	Inhalation	auditory system immune system eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
HEXANE	Inhalation	heart skin endocrine system	All data are negative	Rat	NOAEL 1.76 mg/l	6 months
HEXANE	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
HEXANE	Ingestion	endocrine system hematopoietic system liver immune system kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	13 weeks

Aspiration Hazard

Name	Value
CYCLOHEXANE	Aspiration hazard
2-METHYLPENTANE	Aspiration hazard
3-METHYLPENTANE	Aspiration hazard
2,2-DIMETHYLBUTANE	Aspiration hazard
2,3-DIMETHYLBUTANE	Aspiration hazard
PENTANE	Aspiration hazard
HEXANE	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
CYCLOHEXANE	110-82-7	10 - 20

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Non hazardous according to WHMIS criteria.

This material contains one or more ingredients that may be regulated by the International Traffic in Arms Regulation (ITAR), an export control of US military technology and chemicals. Prior to export of this material or any product containing this material, determine whether a proper license from the Department of State must be obtained. See 22CFR 120-130 for any specific requirements.

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 3 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M(TM) Spray-Mount(TM) Artist's Adhesive 6064, 6065

Product Identification Numbers

62-4662-2926-7, 62-4662-4827-5, 62-4662-4828-3, 62-4662-4829-1, 70-0050-1482-7, 70-0050-1806-7, 70-0050-8169-3, 70-0050-8838-3

1.2. Recommended use and restrictions on use

Recommended use

Adhesive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Stationery and Office Supplies Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Flammable Aerosol: Category 1.

Serious Eye Damage/Irritation: Category 2A.

Simple Asphyxiant.

Specific Target Organ Toxicity (single exposure): Category 1.

Specific Target Organ Toxicity (central nervous system): Category 3.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Extremely flammable aerosol.

Causes serious eye irritation.

May cause drowsiness or dizziness.

May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Precautionary Statements

General:

Keep out of reach of children.

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Do not spray on an open flame or other ignition source.

Pressurized container: Do not pierce or burn, even after use.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear eye/face protection.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF exposed: Call a POISON CENTER or doctor/physician.

Specific treatment (see Notes to Physician on this label).

Storage:

Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
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ACETONE	67-64-1	30 - 40 Trade Secret *
HEPTANE ISOMERS	64742-49-0	20 - 30 Trade Secret *
ISOBUTANE	75-28-5	20 - 30 Trade Secret *
PROPANE	74-98-6	7 - 13 Trade Secret *
NON-VOLATILE COMPONENTS - N.J. TRADE SECRET REGISTRY NO. 04499600-6201P++	Trade Secret*	5 - 10 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. Get medical attention.

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance

Aldehydes
Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Do not use in a confined area with minimal air exchange. Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
HEPTANE ISOMERS	64742-49-0	CMRG	TWA:50 ppm	
ACETONE	67-64-1	ACGIH	TWA:500 ppm;STEL:750 ppm	A4: Not class. as human carcin
ACETONE	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
PROPANE	74-98-6	ACGIH	Limit value not established:	
PROPANE	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	
ISOBUTANE	75-28-5	ACGIH	STEL:1000 ppm	
Natural gas	75-28-5	ACGIH	Limit value not established:	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Butyl Rubber

Respiratory protection

In case of inadequate ventilation wear respiratory protection. An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece supplied-air respirator

Organic vapor respirators may have short service life.

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Mild Solvent Odor/Clear-light yellow
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	-50.00 °F [<i>Test Method:</i> Tagliabue Closed Cup] [<i>Details:</i> CONDITIONS: Propellant]
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	Approximately 1.85 % volume
Flammable Limits(UEL)	Approximately 9.9 % volume
Vapor Density	<i>No Data Available</i>
Density	0.673 g/ml
Specific Gravity	0.673 [<i>Ref Std:</i> WATER=1]
Solubility in Water	Negligible
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>

Autoignition temperature	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	<i>Not Applicable</i>
Hazardous Air Pollutants	0 % weight [<i>Test Method</i> : Calculated]
Volatile Organic Compounds	Approximately 58 % weight
Percent volatile	Approximately 91 % weight
VOC Less H2O & Exempt Solvents	Approximately 538 g/l [<i>Test Method</i> : calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

Sparks and/or flames

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Substance

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause target organ effects after inhalation.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause target organ effects after ingestion.

Target Organ Effects:

Single exposure may cause:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE > 50 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
ACETONE	Dermal	Rabbit	LD50 > 15,688 mg/kg
ACETONE	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
ACETONE	Ingestion	Rat	LD50 5,800 mg/kg
ISOBUTANE	Inhalation-Gas (4 hours)	Rat	LC50 276,000 ppm
HEPTANE ISOMERS	Dermal	Rabbit	LD50 > 3,160 mg/kg
HEPTANE ISOMERS	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.7 mg/l
HEPTANE ISOMERS	Ingestion	Rat	LD50 > 5,000 mg/kg
PROPANE	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
NON-VOLATILE COMPONENTS - N.J. TRADE SECRET REGISTRY NO. 04499600-6201P++	Dermal		LD50 estimated to be > 5,000 mg/kg
NON-VOLATILE COMPONENTS - N.J. TRADE SECRET REGISTRY NO. 04499600-6201P++	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
ACETONE	Mouse	Minimal irritation
ISOBUTANE	Professional judgement	No significant irritation
HEPTANE ISOMERS	Rabbit	Irritant
PROPANE	Rabbit	Minimal irritation
NON-VOLATILE COMPONENTS - N.J. TRADE SECRET REGISTRY NO. 04499600-6201P++	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
ACETONE	Rabbit	Severe irritant
ISOBUTANE	Professional judgement	No significant irritation
HEPTANE ISOMERS	Rabbit	Mild irritant
PROPANE	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
HEPTANE ISOMERS	Guinea pig	Not sensitizing
NON-VOLATILE COMPONENTS - N.J. TRADE SECRET REGISTRY NO. 04499600-6201P++	Professional judgement	Not sensitizing

Respiratory Sensitization

Name	Species	Value
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Germ Cell Mutagenicity

Name	Route	Value
ACETONE	In vivo	Not mutagenic
ACETONE	In Vitro	Some positive data exist, but the data are not sufficient for classification
ISOBUTANE	In Vitro	Not mutagenic
HEPTANE ISOMERS	In Vitro	Not mutagenic
PROPANE	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
ACETONE	Not Specified	Multiple animal species	Not carcinogenic
HEPTANE ISOMERS	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
ACETONE	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
ACETONE	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
ACETONE	Inhalation	Some positive developmental data exist,	Rat	NOAEL 5.2	during

		but the data are not sufficient for classification		mg/l	organogenesis
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Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
ACETONE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ACETONE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
ACETONE	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
ACETONE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
ACETONE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
ISOBUTANE	Inhalation	cardiac sensitization	Causes damage to organs	Multiple animal species	NOAEL Not available	
ISOBUTANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
ISOBUTANE	Inhalation	respiratory irritation	All data are negative	Mouse	NOAEL Not available	
HEPTANE ISOMERS	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
HEPTANE ISOMERS	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
PROPANE	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
PROPANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
PROPANE	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
ACETONE	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
ACETONE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
ACETONE	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
ACETONE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
ACETONE	Inhalation	heart liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
ACETONE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
ACETONE	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
ACETONE	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for	Rat	NOAEL 200 mg/kg/day	13 weeks

			classification			
ACETONE	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
ACETONE	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
ACETONE	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
ACETONE	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
ACETONE	Ingestion	skin bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
ISOBUTANE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 4,500 ppm	13 weeks

Aspiration Hazard

Name	Value
HEPTANE ISOMERS	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Non hazardous according to WHMIS criteria.

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None

Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: *3 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M(TM) Super 77(TM) Multipurpose Adhesive (Aerosol)

Product Identification Numbers

62-4977-4730-3, 62-4977-4925-9, 62-4977-4929-1, 62-4977-4930-9, 62-4977-4935-8

1.2. Recommended use and restrictions on use

Recommended use

general purpose aerosol adhesive, General Purpose Aerosol adhesive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Flammable Aerosol: Category 1.

Serious Eye Damage/Irritation: Category 2A.

Reproductive Toxicity: Category 2.

Simple Asphyxiant.

Specific Target Organ Toxicity (single exposure): Category 1.

Specific Target Organ Toxicity (central nervous system): Category 3.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Exclamation mark | Health Hazard |

Pictograms

**Hazard Statements**

Extremely flammable aerosol.

Causes serious eye irritation.

May cause drowsiness or dizziness.

Suspected of damaging fertility or the unborn child.

May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Precautionary Statements**General:**

Keep out of reach of children.

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Do not spray on an open flame or other ignition source.

Pressurized container: Do not pierce or burn, even after use.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves and eye/face protection.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see Notes to Physician on this label).

Storage:

Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.

Keep container tightly closed.

Store locked up in a well-ventilated place.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified

None.

36% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Trade Secret*	20 - 30 Trade Secret *
Acetone	67-64-1	20 - 30 Trade Secret *
Propane	74-98-6	15 - 25 Trade Secret *
Cyclohexane	110-82-7	10 - 20 Trade Secret *
Petroleum distillates	64742-49-0	10 - 20 Trade Secret *
Hexane	110-54-3	< 0.5

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. Get medical attention.

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products**Substance**

Aldehydes
Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Hexane	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
Hexane	110-54-3	ACGIH	TWA:50 ppm	Skin Notation
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	OSHA	TWA:1050 mg/m3(300 ppm)	
Petroleum distillates	64742-49-0	CMRG	TWA:50 ppm	
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	

Acetone	67-64-1	ACGIH	TWA:500 ppm;STEL:750 ppm	A4: Not class. as human carcin
Propane	74-98-6	ACGIH	Limit value not established:	
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Butyl Rubber

Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid aerosol
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Clear, sweet, fruity odor
Odor threshold	<i>No Data Available</i>
pH	<i>No Data Available</i>
Melting point	<i>No Data Available</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	-42.00 °F [<i>Test Method:</i> Tagliabue Closed Cup]
Evaporation rate	1.90 [<i>Ref Std:</i> ETHER=1]

Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Density	2.97 [Ref Std: AIR=1]
Density	0.726 g/ml
Specific Gravity	0.726 [Ref Std: WATER=1]
Solubility in Water	Nil
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	Not Applicable
Viscosity	Not Applicable
Hazardous Air Pollutants	<=0.4 % weight [Test Method: Calculated]
VOC Less H2O & Exempt Solvents	<=51 % [Test Method: calculated SCAQMD rule 443.1]
Solids Content	>=22.4 %

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Substance

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause target organ effects after inhalation.

Skin Contact:

Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause target organ effects after ingestion.

Target Organ Effects:**Single exposure may cause:**

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Petroleum distillates	Dermal	Rabbit	LD50 > 3,160 mg/kg

Petroleum distillates	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.7 mg/l
Petroleum distillates	Ingestion	Rat	LD50 > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Propane	Rabbit	Minimal irritation
Acetone	Mouse	Minimal irritation
Cyclohexane	Rabbit	Mild irritant
Petroleum distillates	Rabbit	Irritant
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)		Minimal irritation
Hexane	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Propane	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant
Cyclohexane	Rabbit	Mild irritant
Petroleum distillates	Rabbit	Mild irritant
Hexane	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Petroleum distillates	Guinea pig	Not sensitizing
Hexane	Human	Not sensitizing

Respiratory Sensitization

Name	Species	Value
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Germ Cell Mutagenicity

Name	Route	Value
Propane	In Vitro	Not mutagenic
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Petroleum distillates	In Vitro	Not mutagenic
Hexane	In Vitro	Not mutagenic
Hexane	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Petroleum distillates	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Hexane	Dermal	Mouse	Not carcinogenic
Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Acetone	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Acetone	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
Cyclohexane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 6.9 mg/l	2 generation
Hexane	Ingestion	Not toxic to development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
Hexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during gestation
Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Petroleum distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	

Petroleum distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24.6 mg/l	8 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Acetone	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Cyclohexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
Hexane	Inhalation	peripheral nervous	Causes damage to organs	Human	NOAEL Not	occupational

		system	through prolonged or repeated exposure		available	exposure
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
Hexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 months
Hexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.76 mg/l	6 months
Hexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 35.2 mg/l	13 weeks
Hexane	Inhalation	auditory system immune system eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	heart skin endocrine system	All data are negative	Rat	NOAEL 1.76 mg/l	6 months
Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Ingestion	endocrine system hematopoietic system liver immune system kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	13 weeks

Aspiration Hazard

Name	Value
Cyclohexane	Aspiration hazard
Petroleum distillates	Aspiration hazard
Hexane	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. Facility must be capable of handling aerosol cans.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Cyclohexane	110-82-7	10 - 20

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: *2 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ TroubleShooter™ Baseboard Stripper

Product Identification Numbers

ID Number	UPC	ID Number	UPC
61-5000-6131-4	00-48011-14001-8		

1.2. Recommended use and restrictions on use

Recommended use

Baseboard Stripper, Heavy duty aerosol cleaner removes soil, grease and finish buildup. Upside down spray feature for hard-to-reach places. Use on baseboards, floor edges, corners, stairways and ceramic tile. Contains no ozone depleting chemicals.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Commercial Solutions Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Gas Under Pressure: Liquefied gas.
Acute Toxicity (inhalation): Category 4.
Serious Eye Damage/Irritation: Category 2A.
Skin Corrosion/Irritation: Category 1.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Contains gas under pressure; may explode if heated.

Causes serious eye irritation.

Causes skin burns.

Harmful if inhaled.

May cause drowsiness or dizziness.

Causes damage to organs:

blood or blood-forming organs |
cardiovascular system |

Causes damage to organs through prolonged or repeated exposure:

blood or blood-forming organs |

Precautionary Statements

General:

Keep out of reach of children.

Prevention:

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing, and eye/face protection.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Immediately call a POISON CENTER or doctor/physician.

Wash contaminated clothing before reuse.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Specific treatment (see Notes to Physician on this label).

Storage:

Protect from sunlight.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified

May cause chemical gastrointestinal burns.

9% of the mixture consists of ingredients of unknown acute oral toxicity.

9% of the mixture consists of ingredients of unknown acute dermal toxicity.

9% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
WATER	7732-18-5	60 - 90 Trade Secret *
2-BUTOXYETHANOL	111-76-2	10 - 30 Trade Secret *
PETROLEUM GASES, LIQUEFIED, SWEETENED	68476-86-8	5 - 10 Trade Secret *
ETHANOLAMINE	141-43-5	3 - 7 Trade Secret *
ETHOXYLATED C12-C15 ALCOHOLS	68131-39-5	0.1 - 1 Trade Secret *
Fragrance added	Mixture	< 0.5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. Get medical attention.

Skin Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products**Substance**

Carbon monoxide

Carbon dioxide

Condition

During Combustion

During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. For large spills, if necessary, get assistance from professional spill clean up team. For small spills, carefully neutralize spill by adding appropriate dilute acid such as vinegar. Work slowly to avoid boiling or spattering. Continue to add neutralizing agent until reaction stops. Let cool before collecting. Or use a commercially available caustic (alkaline or basic) spill clean-up kit. Follow kit directions exactly. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a metal container approved for use in transportation by appropriate authorities. The container must be lined with polyethylene plastic or contain a plastic drum liner made of polyethylene. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Keep out of reach of children. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
2-BUTOXYETHANOL	111-76-2	ACGIH	TWA:20 ppm	A3: Confirmed animal

				carcin.
2-BUTOXYETHANOL	111-76-2	OSHA	TWA:240 mg/m3(50 ppm)	Skin Notation
ETHANOLAMINE	141-43-5	ACGIH	TWA:3 ppm;STEL:6 ppm	
ETHANOLAMINE	141-43-5	OSHA	TWA:6 mg/m3(3 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Do not remain in area where available oxygen may be reduced.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Off white, milky liquid.
Odor threshold	<i>No Data Available</i>
pH	11 - 12.1
Melting point	<i>Not Applicable</i>

Boiling Point	> 212 °F
Flash Point	No flash point
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Pressure	<i>No Data Available</i>
Vapor Density	<i>No Data Available</i>
Density	0.967 - 1.027 g/ml
Specific Gravity	0.967 - 1.027 [Ref Std: WATER=1]
Solubility in Water	Complete
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	> 80 centipoise
Molecular weight	<i>No Data Available</i>
Volatile Organic Compounds	15 - 20 % weight [Test Method: calculated per CARB title 2]
Percent volatile	60 - 90 % weight
VOC Less H2O & Exempt Solvents	615 - 645 g/l [Test Method: calculated per CARB title 2]

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

Sparks and/or flames

10.5. Incompatible materials

Strong oxidizing agents

Strong acids

10.6. Hazardous decomposition products

Substance

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Harmful if inhaled.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

May be harmful in contact with skin.

Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Blood Effects: Signs/symptoms may include generalized weakness and fatigue, skin pallor, changes in blood clotting time, internal bleeding, and/or hemoglobinemia.

Prolonged or repeated exposure may cause target organ effects:

Blood Effects: Signs/symptoms may include generalized weakness and fatigue, skin pallor, changes in blood clotting time, internal bleeding, and/or hemoglobinemia.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE 2,000 - 5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE 10 - 20 mg/l
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg

2-BUTOXYETHANOL	Dermal	Guinea pig	LD50 > 2,000 mg/kg
2-BUTOXYETHANOL	Inhalation-Vapor (4 hours)	Guinea pig	LC50 > 2.6 mg/l
2-BUTOXYETHANOL	Ingestion	Guinea pig	LD50 1,414 mg/kg
PETROLEUM GASES, LIQUEFIED, SWEETENED	Inhalation-Gas (4 hours)	Rat	LC50 277,000 ppm
ETHANOLAMINE	Inhalation-Vapor	official classification	LC50 estimated to be 10 - 20 mg/l
ETHANOLAMINE	Dermal	Rabbit	LD50 1,000 mg/kg
ETHANOLAMINE	Ingestion	Rat	LD50 1,720 mg/kg
ETHOXYLATED C12-C15 ALCOHOLS	Dermal	Rat	LD50 5,000 mg/kg
ETHOXYLATED C12-C15 ALCOHOLS	Ingestion	Rat	LD50 1,200 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product		Corrosive
2-BUTOXYETHANOL	Rabbit	Irritant
PETROLEUM GASES, LIQUEFIED, SWEETENED	Professional judgement	No significant irritation
ETHANOLAMINE	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Overall product		Severe irritant
2-BUTOXYETHANOL	Rabbit	Severe irritant
PETROLEUM GASES, LIQUEFIED, SWEETENED	Professional judgement	No significant irritation
ETHANOLAMINE	Rabbit	Corrosive
ETHOXYLATED C12-C15 ALCOHOLS	Not available	Corrosive

Skin Sensitization

Name	Species	Value
2-BUTOXYETHANOL	Guinea pig	Not sensitizing
ETHANOLAMINE	Guinea pig	Some positive data exist, but the data are not sufficient for classification

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
2-BUTOXYETHANOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
PETROLEUM GASES, LIQUEFIED, SWEETENED	In Vitro	Not mutagenic
ETHANOLAMINE	In Vitro	Not mutagenic
ETHANOLAMINE	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
2-BUTOXYETHANOL	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
2-BUTOXYETHANOL	Dermal	Not toxic to development	Rat	NOAEL 1,760 mg/kg/day	during gestation
2-BUTOXYETHANOL	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 100 mg/kg/day	during organogenesis
2-BUTOXYETHANOL	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.48 mg/l	during organogenesis
ETHANOLAMINE	Dermal	Not toxic to development	Rat	NOAEL 225 mg/kg/day	during organogenesis
ETHANOLAMINE	Ingestion	Not toxic to development	Rat	NOAEL 616 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
2-BUTOXYETHANOL	Dermal	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 902 mg/kg	6 hours
2-BUTOXYETHANOL	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 72 mg/kg	not available
2-BUTOXYETHANOL	Dermal	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 451 mg/kg	6 hours
2-BUTOXYETHANOL	Dermal	blood	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
2-BUTOXYETHANOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
2-BUTOXYETHANOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
2-BUTOXYETHANOL	Inhalation	blood	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
2-BUTOXYETHANOL	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
2-BUTOXYETHANOL	Ingestion	blood	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
2-BUTOXYETHANOL	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	poisoning and/or abuse
PETROLEUM GASES, LIQUEFIED, SWEETENED	Inhalation	cardiac sensitization	Causes damage to organs	similar compounds	NOAEL Not available	
PETROLEUM GASES, LIQUEFIED, SWEETENED	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	

PETROLEUM GASES, LIQUEFIED, SWEETENED	Inhalation	respiratory irritation	All data are negative		NOAEL Not available	
ETHANOLAMINE	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
2-BUTOXYETHANOL	Dermal	blood	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	not available
2-BUTOXYETHANOL	Dermal	endocrine system	All data are negative	Rabbit	NOAEL 150 mg/kg/day	90 days
2-BUTOXYETHANOL	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.4 mg/l	14 weeks
2-BUTOXYETHANOL	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.15 mg/l	14 weeks
2-BUTOXYETHANOL	Inhalation	blood	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.15 mg/l	6 months
2-BUTOXYETHANOL	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 1.9 mg/l	8 days
2-BUTOXYETHANOL	Ingestion	blood	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 69 mg/kg/day	13 weeks
2-BUTOXYETHANOL	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	not available
PETROLEUM GASES, LIQUEFIED, SWEETENED	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	
ETHANOLAMINE	Inhalation	liver kidney and/or bladder respiratory system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.656 mg/l	5 weeks
ETHANOLAMINE	Ingestion	hematopoietic system liver kidney and/or bladder respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

A 3M Product Environmental Data Sheet (PED) is available.

Chemical fate information

A 3M Product Environmental Data Sheet (PED) is available.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Facility must be capable of handling aerosol cans. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D002 (Corrosive)

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations****311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
2-BUTOXYETHANOL (GLYCOL ETHERS)	111-76-2	10 - 30

15.2. State Regulations**15.3. Chemical Inventories**

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

This product complies with the New Zealand Hazardous Substances and New Organisms Act (1996).

15.4. International Regulations

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 **Flammability:** 2 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 1

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: *3 **Flammability:** 2 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group:	10-2818-2	Version Number:	22.00
Issue Date:	02/18/16	Supersedes Date:	09/25/14

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3M USA SDSs are available at www.3M.com



Material Safety Data Sheet

24 HR. CHEMTREC EMERGENCY #: 1-800-424-9300
(OUTSIDE THE U.S. & CANADA: 1-202-483-7616)

HAZARD RATING	Fire		
4 - EXTREME			
3 - HIGH	Health	2 ² 0	Reactivity
2 - MODERATE			
1 - SLIGHT			
0 - INSIGNIFICANT		Special	

SECTION 1 - PRODUCT IDENTIFICATION

IDENTITY: Asphalt Cements / Coatings – AF

13AF, 16AF, 18AF, 19AF, 71AF, 78AF, 79AF, 83AF
86AF, 155AF, 160, 197AF, 198AF

DATE: June 9, 2003
Revision: 3

MANUFACTURER:

Karnak Corporation
330 Central Ave.
Clark, NJ 07066 U.S.A.

Telephone #: 1-732-388-0300

24 HR CHEMTREC EMERGENCY NUMBER 1-800-424-9300
(OUTSIDE THE U.S AND CANADA 1-202-483-7616)

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

Components	CAS#	Weight %	OSHA PEL	ACGIH TLV	Other Limits Recommended
Asphalt	8052-42-4	30-80	N.E.	5mg/m ³	5mg/m ³ (NIOSH)
Aliphatic hydrocarbons	8052-41-3	3-40	100 ppm	100 ppm	350mg/m ³ (NIOSH)
Amorphous Alumina Silicates	93763-70-3	0-20	15mg/m ³	10mg/m ³	N/A
Attapulgite Clay	12174-11-7	0-20	N/A	5mg/m ³	N/A
Cellulose Fibers	9004-34-6	0-15	5mg/m ³	5mg/m ³	N/A
Polymers	9003-55-8	0-20	N/A	N/A	N/A
Cationic Salt	28701-67-9	0-3	N/A	N/A	N/A

PEL = Permissible Exposure Limits
TLV = Threshold Limit Value
N.E. = Not Established
N.A. = Not Applicable

OSHA = Occupational Safety and Health Administration
ACGIH = American Conference of Governmental Industrial Hygienists
NIOSH = National Institute for Occupational Safety and Health

SECTION 3 - HAZARDS IDENTIFICATION

Combustible liquid and Vapor

Potential Health Effects:

Fumes from product can be unpleasant, may cause nausea, headache and irritating to eyes, skin, and respiratory tract.

SECTION 4 - FIRST AID MEASURES

Eye Contact: If this product comes in contact with eyes, Flush eye with plenty of water for at least 15 minutes and seek medical attention.

Skin Contact: If this product comes in contact with skin, remove material with mineral oil, then wash with soap and plenty of water.

Inhalation: If respiratory discomfort occurs, remove to fresh air. If discomfort continues, administer oxygen and get medical attention.

Ingestion: If swallowed, do not induce vomiting. Get medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point (PMCC): 104°F Minimum

Dust Explosivity Limits: Not Applicable.

Extinguishing Media: Carbon dioxide (CO₂), foam, or dry chemical. Water may be used to Cool containers exposed to heat.

Fire Fighting Instructions: Minimize breathing vapors, gases or fumes of decomposition products. Do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Unusual Fire Hazards: When heated above flash point, material will release flammable vapors which can burn or be explosive in confined spaces if ignited. Do not mix with strong oxidants such as liquid chlorine or concentrated oxygen.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Eliminate sources of ignition, and ventilate the area. Add sand or earth or absorb spill with suitable absorbent material and place in a closed container.

Keep product out of sewers and waterways by diking or impounding. Advise authorities if product has entered or may enter sewers or waterways. Assure conformity with applicable governmental regulations.

SECTION 7 - HANDLING AND STORAGE

Vapors are heavier than air and may travel along the ground or be moved by ventilation to locations distant from the point of material handling. To prevent fumes from entering buildings or confined areas, close all air intake sources near the material handling or the work area. To prevent ignition, avoid smoking, keep away from heat, open flames and sources of static or electrical sparking. Use explosion proof motors and equipment. Tank trucks or other containers should be grounded and/or bonded when the material is transferred.

Avoid prolonged or repeated inhalation of vapors or spray mists. Avoid prolonged or repeated skin contact. Adhere to good hygienic practices. Avoid open flames. Use with adequate ventilation.

Store in a cool, dry place, out of direct sunlight and away from heat, sparks, and flame.

Health studies have shown that many petroleum hydrocarbons pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Respiratory Protection: Use supplied-air respirator in confined areas or with vapors in high concentrations.

Ventilation: Local Exhaust: In enclosed areas. Special: None
Mechanical: In enclosed areas. Other: None

Eye Protection: Safety glasses or face shield for liquid material.

Protective Gloves: Solvent impervious gloves.

Other Protective Clothing Equipment: Long sleeves and impervious clothing to protect against splashing.

Work/Hygienic Practices: See Section 7.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Dark liquid. Mild petroleum odor

Vapor Pressure: 3

Boiling Point: 300-350°F

Melting Point (R & B): N/A

Solubility in water: Insoluble.

Specific Gravity (H₂O=1): 0.8 – 0.99

Evaporation Rate (Butyl Acetate=1)@ 77°F: 0.2

Vapor Density (Air = 1): >4

Flash Point (PMCC): 104°F min.

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	Keep away from heat, spark, open flames. Auto-ignition temperature unknown.
Incompatibility (Materials to Avoid):	May react with strong oxidizing materials.
Hazardous Decomposition or Byproducts:	Combustion: carbon dioxide (CO ₂), carbon monoxide (CO), nitrogen oxides, smoke, and fumes.
Hazardous Polymerization:	Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

Product may cause respiratory irritation, headache, dizziness, nausea and vomiting. Prolonged or repeated contact with skin may cause dermatitis.

Carcinogenicity: NTP?: No IARC Monographs?: No OSHA Regulated?: No

SECTION 12 - ECOLOGICAL INFORMATION

EPA Hazard Classification Code:

Acute Hazard: ____ Chronic Hazard: ____ Fire Hazard: ____ Pressure Hazard: ____

Reactive Hazard: ____ Not Applicable: X

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations.

SECTION 14 - TRANSPORTATION INFORMATION

The description shown may not apply to all shipping situations. Consult 49 CFR, or appropriate regulations, for additional description requirements.

DOT Shipping Name: Asphalt Cements / Coatings
DOT Label Information: Combustible Liquid
DOT Hazard Class: Non-Hazardous (Ground transport only)
DOT Packing Group: N/A (Ground transport only)

SECTION 15 - REGULATORY INFORMATION

SARA TITLE III - EPA Regulation 40 CFR 302 (CERCLA Section 102); CFR 355 (SARA Section 301-304);
CFR 372 (SARA Section 311-313) - NOT APPLICABLE.

This product contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372

1,2,4 – Trimethylbenzene CAS# 95-63-6 Weight% 0-2

EPA HAZARD CLASSIFICATION CODE: Acute Hazard/Chronic Hazard/Fire Hazard/Pressure Hazard/Reactive Hazard - NOT APPLICABLE.

TSCA, CANADIAN DSL: Yes

SECTION 16 - OTHER INFORMATION

Revision Statement:

This Material Safety Data Sheet has been revised to follow the ANSI Z400.1 standard.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The information has been completed to the best of our knowledge and is believed to be accurate and reliable as from the date indicated. However, no warranty is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy oneself as to the suitability and completeness of such information for his own particular use.



product *Specification*

#022

Solvent Based Carpet Seam Sealer



Capitol's 022 Solvent Based, Flammable Carpet Seam Sealer is specially formulated to prevent edge raveling and seal seams of most commercial and outdoor carpets. 022 is fast setting and water proof. 022 is compatible with most carpet backings. Do not

use for sealing PVC backed products, or products where seam sealers are not required. Excellent for direct glue and double glue applications.

Description: Solvent Based Carpet Seam Sealer

Flammability: Flammable

Clean Up: Safety solvent or mineral spirits.

Shelf Life: One year in closed container.

Limitations: Do not use for PVC or Vinyl Backed Products.

Packaging:

- 1 Quart (12/case)
- One Half Pint (12/case)

For The Installation Of:

- ActionBac® • Jute • Latex Unitary
- Wovens • Rubber Backed • Urethane (Attached Cushion)

Estimated Coverage:

- 160 lineal feet per 8 ounce bottle
- 2,560 lineal feet per gallon

Directions: Remove inner seal before using.
Application: Apply an 1/8" bead with dispenser tip at carpet primary backing and

immediately butt opposite cut. If carpet edges tend to peak, use board or weights to hold in place until dry. Adhesive may temporarily swell rubber back and cause a "peaking" effect - press down after allowing 30-60 minutes drying time. **CLEAN UP:** Use a safety solvent or mineral spirits. **DO NOT USE ON PVC BACKED CARPETS OR VINYL SHEET GOODS.**

First Aid: First Aid: Skin- Soap and water. Eyes- Flush with water, lifting upper and lower lids occasionally. Ingestion- Do not induce vomiting. Call physician or transport to an emergency facility. Inhalation- If affected, remove individual to fresh air. Use only in well ventilated areas.

Caution: FLAMMABLE! Use only in well ventilated areas. Do not use around sources of ignition such as open flames, pilot lights, etc. Do not store at temperatures above 120° F, or in direct sunlight. Do not incinerate container. Wrap empty container and put in trash collections. **KEEP OUT OF REACH OF CHILDREN**



Capitol USA, LLC
300 Cross Plains Blvd. • PO Box 2023
Dalton, GA 30722
800-831-8381 • Fax: 706-277-5753
Jim Walker ProSeries TechLine 888-234-8400
Website www.capitolusa.com

#022

Solvent Based Carpet Seam Sealer

SECTION I - PRODUCT IDENTIFICATION

Manufacturer's Name: Capitol USA, LLC
Address: 300 Cross Plains Blvd. • Dalton, GA 30720
Telephone #: 1-800-831-8381
Emergency Phone: 800-535-5053
Generic ID: Synthetic Rubber Adhesive in Solvent Solution
DOT Hazard Classification: Class 3 Flammable Liquid, UN1133
Product Identity: #022 Solvent Based Carpet Seam Sealer
HMIS: H=1 F=3 R=0

SECTION II - HAZARDOUS COMPONENTS

% (weight) PEL TLV
Lacolene 62.3 400 ppm 400 ppm (CAS# 64742-89-8)
Toluene 10.4 100 ppm 50 ppm (CAS# 108-88-3)
SARA TITLE III Reportable: Lacolene, Toluene

SECTION III - PHYSICAL DATA

Initial Boiling Point: 185°F - 220°F. Vapor Pressure: 38.0 mm Hg @ 68°F. Vapor Density (Air = 1.0 : 3.6). Specific Gravity: 0.71 @ 60°F. Percent Volatiles: 72.7%. G/L VOC (Calculated): 553.0.

SECTION IV - FIRE AND EXPLOSION DATA

Flash Point: 20°F - 32°F. Explosive Limit (Product): 1.2%. Extinguishing Media: Foam, CO₂, Dry Chemical. HAZARDOUS DECOMPOSITION PRODUCTS: May form toxic materials: carbon dioxide and carbon monoxide, various hydrocarbons of unknown structure. SPECIAL FIRE FIGHTING PROCEDURES: Water may be used to keep fire-exposed containers cool until fire is out. Wear self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode when fighting fires. UNUSUAL FIRE & EXPLOSION HAZARDS: Never use welding or cutting torch on or near cans (even empty) because resultant pressure could rupture. Empty cans should be incinerated.

SECTION V - HEALTH HAZARD DATA

Permissible Exposure Level: 400 ppm. Threshold Limit Value: 400 ppm. EFFECTS OF EXPOSURE: Eyes- Can cause irritation, redness, tearing, blurred vision. Skin- Prolonged or repeated contact can cause moderate irritation, defatting, dermatitis. Breathing- Excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, and even asphyxiation. First Aid: Skin- Soap and water. Eyes- Flush with water, lifting upper and lower lids occasionally. Ingestion- Do not induce vomiting. Call physician or transport to an emergency facility. Inhalation- If affected, remove individual to fresh air. Use only in well ventilated areas.

SECTION VI - REACTIVITY DATA

Stability: Stable. Incompatibility: None. Hazardous Decomposition: None. Hazardous Polymerization: Can not Occur. Conditions To Avoid: Strong Oxidizing Agents, Open Flame, and Excessive Heat

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material and transfer to hood. Allow volatile portion to evaporate in hood. Allow sufficient time for vapors to completely clear hood duct work. Dispose of remaining material in accordance with applicable regulations.

SECTION VIII - PROTECTIVE EQUIPMENT

VENTILATION: Adequate ventilation is essential to prevent vapor build-up. Open all available windows and entrances to insure good ventilation. RESPIRATOR PROTECTION: Adequate ventilation is normally sufficient. If eyes begin to water or dizziness or headaches are experienced, increase fresh air supply, wear an NIOSH approved respirator, or leave the area. PROTECTIVE GLOVES: Wear protective gloves to prevent skin contact. EYE PROTECTION: Wear glasses or protective goggles to avoid splashes. OTHER PROTECTIVE EQUIPMENT: None required. WASH HANDS THOROUGHLY WITH SOAP AND WATER.

SECTION IX - SPECIAL PRECAUTIONS

Protect from freezing. Use only in applications as stated on the label. Do not take internally. Close container after each use. Avoid skin and eye contact. Extinguish any open flames, sparks, or other sources of ignition. Keep away from excessive heat.

Ventilation with fresh air, including open doors and windows should be observed during any flooring installation. Operate HVAC systems at 100% fresh air intake before, during and after installation to eliminate lingering odors or particulate matter. KEEP OUT OF REACH OF CHILDREN

Capitol USA believes the data set forth herein is accurate as of the date hereof, and makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data are offered solely for your consideration, investigation and verification.

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#028

Flammable Contact Cement

SECTION I - PRODUCT IDENTIFICATION

Manufacturer's Name: Capitol USA, LLC
Address: 300 Cross Plains Blvd., Dalton, GA 30720
Telephone Number: 800-831-8381
Emergency Phone: 800-535-5053
Product Class: Neoprene Rubber Adhesive
Product Identity: #028 Contact Cement
DOT Hazard Classification: Flammable Liquid NA# (Toluene): 1133

SECTION II - HAZARDOUS COMPONENTS

Toluene: % (By WT.) 42.8; PEL: 300 ppm; TLV: 200 ppm
CAS #108-88-3. Hexane: % (By WT.) 29.5; PEL: 500 ppm; TLV: 50 ppm
CAS #110-54-3. Methyl Ethyl Ketone: % (By WT.) 6.1; PEL: 200 ppm; TLV: 200 ppm
CAS #78-93-3. Sara III Reportable: Hexane, Toluene, MEK.

SECTION III - PHYSICAL DATA

Initial Boiling Point: 162°F. Vapor Pressure: 100.0 mm Hg @ 68° F. Vapor Density: 4.60. Specific Gravity: 1.84. Percent Volatiles: 78.3%. G/L VOC: 660.0 (Calculated).

SECTION IV - FIRE AND EXPLOSION DATA

Flash Point: 0°F. Explosive Limit: Lower=1.5; Upper=7.8. Extinguishing Media: Water Fog. HAZARDOUS DECOMPOSITION PRODUCTS: May form toxic materials: carbon dioxide and carbon monoxide, hydrogen chloride, phosgene, various hydrocarbons, etc. UNUSUAL FIRE AND EXPLOSION HAZARDS: Never use welding or cutting torch on or near cans (even empty) because resultant pressure could rupture. Empty cans should be incinerated. SPECIAL FIRE FIGHTING PROCEDURES: Water may be used to keep fire-exposed containers cool until fire is out. Wear self-contained breathing apparatus with full-face piece operated in pressure-demand or other positive pressure mode when fighting fires.

SECTION V - HEALTH HAZARD DATA

Permissible Exposure Level: 300 ppm. Threshold Limit Value: 200 ppm. EFFECTS OF EXPOSURE: Eyes- Can cause irritation redness, tearing, blurred vision. Skin- Prolonged or repeated contact can cause moderate irritation, defatting, and dermatitis. Breathing- Excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, and even asphyxiation. FIRST AID: Skin- Soap and water. Eyes- Flush with water, lifting upper and lower lids occasionally. Ingestion- Do not induce vomiting. Call physician or transport to an emergency facility. Inhalation- If affected, remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. USE ONLY IN WELL-VENTILATED AREAS.

SECTION VI - REACTIVITY DATA

Stability: Stable. Hazardous Polymerization: Cannot Occur

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material and transfer to hood. Allow volatile portion to evaporate in hood. Allow sufficient time for vapors to completely clear hood ductwork. Dispose of remaining material in accordance with applicable regulations.

SECTION VIII - PROTECTIVE EQUIPMENT

VENTILATION: Adequate ventilation is essential to prevent vapor build-up. Open all available windows and entrances to insure good ventilation. RESPIRATOR PROTECTION: Adequate ventilation is normally sufficient. If eyes begin to water or dizziness or headaches are experienced, increase fresh air supply, wear an NIOSH approved respirator, or leave the area. PROTECTIVE GLOVES: Wear protective gloves to prevent skin contact. EYE PROTECTION: Wear glasses or protective goggles to avoid splashes. OTHER PROTECTIVE EQUIPMENT: None required. WASH HANDS THOROUGHLY WITH SOAP AND WATER.

SECTION IX - SPECIAL PRECAUTIONS & WARNINGS

Toluene carries a NFPA rating of 3 (high degree of hazard). Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. KEEP OUT OF REACH OF CHILDREN. Use only in applications as stated on the label. Do not take internally. Close container after each use. Avoid skin and eye contact. California proposition 65: this product contains toluene a chemical known to the state of California to cause birth defects and other reproductive harm.

Capitol USA believes the data set forth herein is accurate as of the date hereof, and makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data are offered solely for your consideration, investigation and verification.

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MATERIAL SAFETY DATA SHEET

PRODUCT: SOLEST 68

CHEMICAL NAME/FAMILY: POLYOL ESTER

HMIS:	H	F	R
	0	1	0

DISTRIBUTOR: NATIONAL REFRIGERANTS, INC.

ADDRESS: 11401 Roosevelt Boulevard Phila., Pa. 19154

INFORMATION: 800-262-0012

DATE: 10/09

EMERGENCY: 800-424-9300

PREPARER: Ray Madariaga

COMPOSITION / INFORMATION ON INGREDIENTS

Proprietary Formulation

CAS#: Proprietary

HAZARDS IDENTIFICATION

This material has no known hazards under applicable laws. The product contains no known carcinogens. No special warning labels are required under OSHA 29 CFR 1910.1200.

FIRST AID MEASURES

Ingestion: Do not induce vomiting. If conscious, give 2 glasses of water and consult physician. May cause nausea and diarrhea.

Skin: Upon contact with skin, wash exposed area with soap and water.

Inhalation: Product is not toxic by inhalation. If oil mist is inhaled, remove to fresh air and consult physician.

Eye Contact: Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain medical attention if irritation persists.

FIRE-FIGHTING MEASURES

Flash Point (Cleveland Open Cup): 230 deg. C minimum

Flammable Limits: Not Determined

Auto ignition Temperature: Not Determined

Extinguishing Media: Dry Chemical; CO2 Foam; Water Spray (fog)



Unusual Fire and Explosion Hazards: None

Special Fire Fighting Procedures: Toxic fumes, gases or vapors may evolve on burning. Firefighters should use NIOSH/MNSA- approved self-contained breathing apparatus. Use water to cool fire-exposed containers. Use water carefully near exposed liquid to avoid frothing and splashing of hot liquid.

ACCIDENTAL RELEASE MEASURES

In Case of Spill: Stop the source of the spill. Dike the spill area. Use absorbent materials to soak up fluid (i.e. sand, sawdust, commercially available materials). Wash the spill area with large amounts of water. Properly dispose of all materials.

Personal Precautions: Wear suitable protective equipment, especially goggles.

HANDLING AND STORAGE

Handling Precautions:

Do not take internally. Avoid contact with skin, eyes, and clothing. Upon contact with skin, wash exposed area with soap and water. If product enter the eyes, flush with water for 15 minutes and consult a physician. Wash contaminated clothing before reuse.

Storage Requirements:

Keep container tightly sealed when not in use.

EXPOSURE CONTROLS / PERSONAL PROTECTION

Threshold Limit Value: Not determined.

Situations to Avoid: Avoid breathing oil mists.

Respiratory Protection: Use in well ventilated area.

Hand Protection / Protective Gloves: Not required, but recommended, especially for prolonged exposure.

Eye/Face Protection: Safety glasses or goggles.

Ventilation: Local exhaust.



PHYSICAL/CHEMICAL CHARACTERISTICS

Physical State: Clear liquid

Odor: Mild, distinct

Specific Gravity: ($H_2O=1$) 0.94-0.97

Solubility in Water: Negligible

Evaporation Rate (butyl acetate=1): Nil

Color: Gray to yellow or light brown tint

Boiling Point: >650 deg. F

Vapor Pressure: <0.01 mmHg @ 20 deg. C

Percent Volatiles: 0%

STABILITY AND REACTIVITY

Stability: Stable

Incompatible Materials: Strong oxidizers

Conditions to Avoid: Excessive heat

Hazardous Decomposition Products: Analogous compounds evolve carbon monoxide, carbon dioxide, and other unidentified chemicals when burned.

Hazardous Polymerization: Will not occur.

DISPOSAL CONSIDERATIONS

Incinerate this product and all associated waste in a licensed facility in accordance with appropriate Federal, State, and local regulations.

TRANSPORT INFORMATION

DOT Classification: This product is not regulated by DOT.

REGULATORY INFORMATION

This material is not a hazardous waste under RCRA Regulation 40 CFR 261.

DISCLAIMER

INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BELIEVED TO BE ACCURATE AT THE TIME OF PREPARATION. NO WARRANTY IS MADE CONCERNING THE ACCURACY AND NO LIABILITY SHALL BE MADE FOR CLAIMS FOR USE OR RELIANCE OF THE RECOMMENDATIONS CONTAINED HEREIN.

DOW CORNING CORPORATION
Material Safety Data Sheet

Page: 1 of 7

Version: 1.3

Revision Date: 2008/02/20

DOW CORNING(R) 111 VALVE LUBRICANT & SEALANT**1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY**

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900

Customer Service: (989) 496-6000

Product Disposal Information: (989) 496-6315

CHEMTREC: (800) 424-9300

MSDS No.: 01889834

Revision Date: 2008/02/20

Generic Description: Silicone grease.
Physical Form: Grease
Color: Translucent white
Odor: Odorless

NFPA Profile: Health 0 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION**POTENTIAL HEALTH EFFECTS****Acute Effects**

Eye: Direct contact may cause temporary redness and discomfort.
Skin: No significant irritation expected from a single short-term exposure.
Inhalation: No significant effects expected from a single short-term exposure.
Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: No known applicable information.
Inhalation: No known applicable information.
Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions,

DOW CORNING CORPORATION
Material Safety Data Sheet

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Revision Date: 2008/02/20

DOW CORNING(R) 111 VALVE LUBRICANT & SEALANT

component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

None present. This is not a hazardous material as defined in the OSHA Hazard Communication Standard.

4. FIRST AID MEASURES

Eye:	Immediately flush with water.
Skin:	No first aid should be needed.
Inhalation:	No first aid should be needed.
Oral:	No first aid should be needed.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	> 214 °F / > 101.1 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO ₂), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

6. ACCIDENTAL RELEASE MEASURES

DOW CORNING(R) 111 VALVE LUBRICANT & SEALANT

Containment/Clean up: Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbant. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Avoid eye contact.

Use reasonable care and store away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Component Exposure Limits**

There are no components with workplace exposure limits.

Engineering Controls

Local Ventilation: None should be needed.

General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Suitable Gloves: Handle in accordance with good industrial hygiene and safety practices.

Inhalation: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

Personal Protective Equipment for Spills

DOW CORNING(R) 111 VALVE LUBRICANT & SEALANT

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Inhalation/Suitable
Respirator: No respiratory protection should be needed.

Precautionary Measures: Avoid eye contact. Use reasonable care.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Grease
Color: Translucent white
Odor: Odorless
Specific Gravity @ 25°C: 1.1
Viscosity: Not determined.
Freezing/Melting Point: Not determined.
Boiling Point: Not determined.
Vapor Pressure @ 25°C: Not determined.
Vapor Density: Not determined.
Solubility in Water: Not determined.
pH: Not determined.
Volatile Content: Not determined.
Flash Point: > 214 °F / > 101.1 °C (Closed Cup)
Autoignition Temperature: Not determined.
Flammability Limits in Air: Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

DOW CORNING(R) 111 VALVE LUBRICANT & SEALANT**11. TOXICOLOGICAL INFORMATION****Special Hazard Information on Components**

No known applicable information.

12. ECOLOGICAL INFORMATION**Environmental Fate and Distribution**

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS**RCRA Hazard Class (40 CFR 261)**

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal. Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION**DOT Road Shipment Information (49 CFR 172.101)**

Not subject to DOT.

Ocean Shipment (IMDG)

DOW CORNING(R) 111 VALVE LUBRICANT & SEALANT

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings**Section 302 Extremely Hazardous Substances (40 CFR 355):**

None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):

None.

Section 311/312 Hazard Class (40 CFR 370):

Acute: No
Chronic: No
Fire: No
Pressure: No
Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):

None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information**California**

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

DOW CORNING(R) 111 VALVE LUBRICANT & SEALANT

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
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7631-86-9	7.0 - 13.0	Silica, amorphous
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New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
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63148-62-9	> 60.0	Polydimethylsiloxane
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7631-86-9	7.0 - 13.0	Silica, amorphous
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70131-67-8	5.0 - 10.0	Dimethyl siloxane, hydroxy-terminated
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Pennsylvania

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
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63148-62-9	> 60.0	Polydimethylsiloxane
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7631-86-9	7.0 - 13.0	Silica, amorphous
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70131-67-8	5.0 - 10.0	Dimethyl siloxane, hydroxy-terminated
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16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Name: K-FLEX USA Adhesive
Description: Rubber Insulation Adhesive
EMERGENCY ONLY CONTACT: CHEM-TREC 1-800-424-9300

II. HAZARDOUS INGREDIENTS

INGREDIENT:	CAS Number	PERCENT:	STEL	OSHA PEL	ACGIH TLV
Acetone	67-64-01	25%	1000 ppm	750 ppm	750 ppm
Toluene	108-88-3	16%	150 ppm (skin)	100 ppm	50 ppm
Hexane	110-54-3	18%	(skin)	50 ppm	50 ppm
Methyl Pentane	107-83-5	10%		500 ppm	400 ppm
3-Methyl Pentane	96-14-0	10%		500 ppm	400 ppm

III. PHYSICAL DATA

APPEARANCE AND COLOR: Yellow liquid with characteristic solvent odor. VAPOR PRESSURE: (mm Hg @ 20°C) 180. WATER DENSITY: (air=1) 2. SOLUBILITY IN WATER: Negligible. SPECIFIC GRAVITY: (water=1): 0.83. EVAPORATION RATE: slower than ether. VOC: 447 g/L calculated at 70°F, SCAQMD.

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: -4°F based on acetone (CC). FLAMMABLE RANGE: LEL = 1.1, UEL = 13.0 (based on hexane and acetone). EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, alcohol-type foam. SPECIAL FIRE FIGHTING PROCEDURES: Protect fire fighters from toxic products of combustion by wearing self-contained breathing apparatus. UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers in a fire may rupture due to pressure build up. Use water to cool containers to prevent this.

V. REACTIVITY DATA

STABILITY: Stable. **INCOMPATIBILITY:** Strong oxidizing agents. **HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, carbon dioxide and other toxic vapors and gases that are common to thermal degradation of organic compounds. **HAZARDOUS POLYMERIZATION:** Will not occur.

VI. HEALTH HAZARD DATA/TOXICOLOGICAL PROPERTIES

PRIMARY ROUTES OF ENTRY: Inhalation and direct dermal exposure. TARGET ORGANS: Upper respiratory tract, skin and eyes. EFFECTS OF OVEREXPOSURE: Skin and Eyes: Excessive skin contact may cause drying and cracking of skin. Contact with eyes will cause irritation. INHALATION: May cause irritation of respiratory tract, coughing and CNS effects, such as headache, dizziness, and nausea. CARCINOGENICITY: NTP: No. IARC Monographs: No. OSHA Regulated: No. MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Any condition generally aggravated by solvents; preexisting upper respiratory and lung disease such as, but not limited to, bronchitis, emphysema and asthma.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Remove all sources of ignition. Ventilate area of spill or leak, if using mechanical ventilation, make sure that it is explosion proof or does not present an ignition source. For exposures above TLV, wear approved respiratory equipment. Contain spill and prevent it from entering sewer lines or waterways. Use absorbent to assist with the pick up of material. Scrape up adhesive and place in container. WASTE DISPOSAL METHOD: Dispose of container and any unused contents in accordance with federal, state and local waste disposal regulations. Do not flush unused contents or residue down drains. Do not reuse container.

VIII. FIRST AID PROCEDURES

SKIN AND EYES: Flush any skin or eye contact with plenty of water. Additionally with skin contact, wash skin thoroughly with soap and water. Refer to physician if irritation persists. INHALATION: Remove to fresh air if exposed to excess concentration of vapor. Seek medical attention if symptoms persist. INGESTION: Do not induce vomiting. Call Poison Control Center or physician for guidance.

IX. SAFE HANDLING AND USE INFORMATION

VENTILATION: Extremely flammable vapors may ignite explosively or cause flash fire. Use natural cross ventilation, local (mechanical) pick up or general area (mechanical) ventilation to prevent accumulation of solvent vapors, keeping in mind that the ventilation pattern must remove the heavier than air solvent vapors from the lower levels of the work spaces. The ventilation should be sufficient to keep the solvent vapor concentration below the TLV.

K-FLEX USA

320

Prepared 1/11

Made in USA for
K-FLEX USA
Youngsville NC, 27596

IX. SAFE HANDLING AND USE INFORMATION (Con't)

RESPIRATORY PROTECTION: With adequate ventilation, respiratory equipment should not be needed. If adequate ventilation is not afforded, wear respiratory equipment approved for organic vapors. SKIN AND EYE PROTECTION: During the manufacture and packaging of this product, impervious gloves, eye protection and eye wash station may be appropriate. During normal end product use, cotton or loop-pile gloves and safety glasses are recommended to prevent contact with this mastic product.

X. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store in an area suitable for flammable mixtures. Recommended storage temperature is below 90°F. OTHER PRECAUTIONS: Vapors are flammable and are heavier than air. Prohibit smoking and eliminate all other sources of ignition, such as regular electric tools and appliances. Make sure that pilot lights on gas fired water heaters are extinguished. WORKSITE ENVIRONMENT: Initially there may be a potential adverse impact on indoor air quality within the general work area during installation. Therefore, you should advise the building manager or other appropriate person that; it will be necessary to establish and maintain adequate ventilation of the work area, without causing the entry of contaminants to other parts of the building. Persons who are sensitive to odors and/or chemicals should avoid the work area during this process.

XI. REGULATORY INFORMATION

SHIPPING NAME: Adhesive containing a flammable liquid (Hexane and Acetone)
HAZARD CLASS: 3 (flammable liquid) ID#: UN1133 PG: II
This product contains chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372. All components are on TSCA inventory. This product contains Toluene, a chemical known to the state of California to cause birth defects or other reproductive harm.
HMIS (0=Minimal hazard; 4=severe hazard)
Health = 2 Flammability = 3 Reactivity = 0

XII. PREPARATION INFORMATION

The information presented herein is supplied as a guide to those who handle or use this product. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.

Prepared By: EH&S Specialist (919) 556-3475

1. Identification

Product identifier 350 Gym Finish

Other means of identification

SDS number 574-138F

Product code HIL00260

Recommended use Gym Finish

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.
St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (816) 233-1321 (Ext. 8285)

Fax (816) 383-8485

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300
(Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals)

2. Hazard(s) identification

Physical hazards Flammable liquids Category 3

Health hazards Acute toxicity, oral Category 4
Acute toxicity, inhalation Category 4
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2B
Germ cell mutagenicity Category 1B
Carcinogenicity Category 1B
Specific target organ toxicity, repeated exposure Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Flammable liquid and vapor. Harmful if swallowed. Causes skin irritation. Causes eye irritation. Harmful if inhaled. May cause genetic defects. May cause cancer. Causes damage to organs through prolonged or repeated exposure by skin contact.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If swallowed: Call a poison center/doctor if you feel unwell. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Specific treatment (see this label). Rinse mouth. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.
Storage	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	<p>NOTICE: Saw dust from freshly sanded floors or dust from wood floors that have been abraded between coats will spontaneously catch fire if improperly discarded. Immediately after abrading or sanding wood floors, place dust waste in a sealed, water-filled metal container and immediately remove from building.</p> <p>NOTICE: Rags or applicators soaked in a combustible liquid will spontaneously catch fire if improperly discarded. Immediately after using rags or applicators soaked in a combustible liquid, place waste in a sealed, water-filled metal container and immediately remove from building.</p> <p>NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvent with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.</p> <p>Use With Adequate Ventilation. Avoid breathing vapors or spray mist. Open windows and doors, use exhaust fans or other means to insure fresh air entry during application and drying. If you experience eye watering, headache, or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application. Follow respirator manufacturer's directions for respirator use.</p>

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Octamethylcyclotetrasiloxane		556-67-2	10 - < 20
Stoddard Solvent		8052-41-3	10 - < 20
Solvent Naphtha (petroleum), Medium Aliphatic		64742-88-7	5 - < 10
Naptha(Petroleum) Hydrotreated Heavy		64742-48-9	3 - < 5
Xylene		1330-20-7	1 - < 3
1,2,4-trimethylbenzene		95-63-6	< 1
Ethyl Benzene		100-41-4	< 1
Other components below reportable levels			50 - < 60

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	If swallowed, seek medical advice immediately and show this container or label. Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Dizziness. Exposed individuals may experience eye tearing, redness, and discomfort. Irritation of eyes and mucous membranes. Irritation of nose and throat. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.
5. Fire-fighting measures	
Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Flammable liquid and vapor.
6. Accidental release measures	
Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
7. Handling and storage	
Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethyl Benzene (CAS 100-41-4)	PEL	435 mg/m3 100 ppm
Stoddard Solvent (CAS 8052-41-3)	PEL	2900 mg/m3 500 ppm
Xylene (CAS 1330-20-7)	PEL	435 mg/m3 100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethyl Benzene (CAS 100-41-4)	TWA	20 ppm
Stoddard Solvent (CAS 8052-41-3)	TWA	100 ppm
Xylene (CAS 1330-20-7)	STEL TWA	150 ppm 100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
1,2,4-trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3 25 ppm
Ethyl Benzene (CAS 100-41-4)	STEL TWA	545 mg/m3 125 ppm 435 mg/m3 100 ppm
Stoddard Solvent (CAS 8052-41-3)	Ceiling TWA	1800 mg/m3 350 mg/m3

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Ethyl Benzene (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
Xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ensure adequate ventilation, especially in confined areas. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical splash goggles where there is a potential for eye contact.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with organic vapor cartridge.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear, light amber liquid
Physical state	Liquid.
Form	Liquid.
Color	Light Amber
Odor	Solvent odor
Odor threshold	Not available
pH	Not available
Melting point/freezing point	Not available
Initial boiling point and boiling range	> 300 °F (> 148.89 °C)
Flash point	104.0 °F (40.0 °C) Tag Closed Cup
Evaporation rate	< 1 Ethyl ether = 1
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	2.56 mm Hg
Vapor density	6.341 AIR=1
Relative density	0.932 at 77°F
Solubility(ies)	
Solubility (water)	0 % Not soluble
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available.
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Brookfield viscosity	85 - 105 cP
Density	7.67 - 7.84 lb/gal
Percent volatile	46.5 - 49.5 %
VOC (Weight %)	< 350 g/l

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Halogens.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes eye irritation.
Ingestion	Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Dizziness. Irritation of eyes and mucous membranes. Exposed individuals may experience eye tearing, redness, and discomfort. Irritation of nose and throat. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Harmful if inhaled. Harmful if swallowed.

Product	Species	Test Results
350 Gym Finish		
Acute		
<i>Dermal</i>		
LD50	Rabbit	3886.8601 g/kg estimated
<i>Oral</i>		
LD50	Guinea pig	849.8583 g/kg estimated
	Mouse	849.8583 g/kg estimated
	Rabbit	226.6289 g/kg estimated
	Rat	81350.0781 mg/kg estimated
Components	Species	Test Results
1,2,4-trimethylbenzene (CAS 95-63-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 3160 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 2000 ppm, 48 Hours
<i>Oral</i>		
LD50	Rat	6 g/kg
Ethyl Benzene (CAS 100-41-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	17800 mg/kg
<i>Oral</i>		
LD50	Rat	3500 mg/kg
Xylene (CAS 1330-20-7)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 43 g/kg
<i>Inhalation</i>		
LC50	Mouse	3907 mg/l, 6 Hours
	Rat	6350 mg/l, 4 Hours
<i>Oral</i>		
LD50	Mouse	1590 mg/kg
	Rat	3523 - 8600 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization Causes skin irritation.

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Ethyl Benzene (CAS 100-41-4) 2B Possibly carcinogenic to humans.

Xylene (CAS 1330-20-7) 3 Not classifiable as to carcinogenicity to humans.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity May cause reproductive system disorder and/or damage.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard Prolonged inhalation may be harmful.

Chronic effects Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species		Test Results
350 Gym Finish			
Aquatic			
Crustacea	EC50	Daphnia	1050.5671 mg/l, 48 hours estimated
Fish	LC50	Fish	1071.8857 mg/l, 96 hours estimated
Components	Species		Test Results
1,2,4-trimethylbenzene (CAS 95-63-6)			
Aquatic			
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	7.19 - 8.28 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	7.711 - 9.591 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Stoddard Solvent 3.16 - 7.15
Xylene 3.12 - 3.2

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations. Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT	Not regulated as dangerous goods. Not Regulated For Ground Transportation.
General information	This material is regulated under IATA and IMDG regulations. Contact manufacturer for shipping instructions.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethyl Benzene (CAS 100-41-4)	Listed.
Xylene (CAS 1330-20-7)	Listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
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SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	No
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SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Xylene	1330-20-7	1 - < 3
1,2,4-trimethylbenzene	95-63-6	< 1

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Ethyl Benzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)

Safe Drinking Water Act (SDWA)	Not regulated.
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US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

1,2,4-trimethylbenzene (CAS 95-63-6)
Ethyl Benzene (CAS 100-41-4)
Stoddard Solvent (CAS 8052-41-3)
Xylene (CAS 1330-20-7)

US. New Jersey Worker and Community Right-to-Know Act

1,2,4-trimethylbenzene (CAS 95-63-6)

Ethyl Benzene (CAS 100-41-4)
Stoddard Solvent (CAS 8052-41-3)
Xylene (CAS 1330-20-7)

US. Pennsylvania Worker and Community Right-to-Know Law

1,2,4-trimethylbenzene (CAS 95-63-6)
Ethyl Benzene (CAS 100-41-4)
Stoddard Solvent (CAS 8052-41-3)
Xylene (CAS 1330-20-7)

US. Rhode Island RTK

1,2,4-trimethylbenzene (CAS 95-63-6)
Ethyl Benzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Ethyl Benzene (CAS 100-41-4)

Listed: June 11, 2004

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-22-2015
Revision date 01-18-2016
Version # 03
HMIS® ratings Health: 2*
Flammability: 3
Physical hazard: 0

Disclaimer No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

Revision Information Physical & Chemical Properties: Multiple Properties
Physical and chemical properties: Appearance
Physical and chemical properties: Color
Toxicological information: Corrosivity
Toxicological information: Eye contact
Toxicological information: Skin contact

1. Identification

Product identifier 450 GYM FINISH

Other means of identification

SDS number 552N-97A

Product code HIL00284

Recommended use Gym Finish

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.
St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (816) 233-1321 (Ext. 8285)


Fax (816) 383-8485

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300

(Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
	Sensitization, skin	Category 1
	Germ cell mutagenicity	Category 1B
	Carcinogenicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	
Label elements		

Signal word Danger

Hazard statement Flammable liquid and vapor. Causes skin irritation. May cause an allergic skin reaction. Causes eye irritation. Harmful if inhaled. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Causes damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

Disposal

Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

NOTICE: Saw dust from freshly sanded floors or dust from wood floors that have been abraded between coats will spontaneously catch fire if improperly discarded. Immediately after abrading or sanding wood floors, place dust waste in a sealed, water-filled metal container and immediately remove from building.

NOTICE: Rags or applicators soaked in a combustible liquid will spontaneously catch fire if improperly discarded. Immediately after using rags or applicators soaked in a combustible liquid, place waste in a sealed, water-filled metal container and immediately remove from building.

NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvent with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Use With Adequate Ventilation. Avoid breathing vapors or spray mist. Open windows and doors, use exhaust fans or other means to insure fresh air entry during application and drying. If you experience eye watering, headache, or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application. Follow respirator manufacturer's directions for respirator use.

Spill and Waste: Remove all sources of ignition. Ventilate and remove with inert absorbent. Incinerate in approved facility. Do not incinerate closed container. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Stoddard Solvent		8052-41-3	40 - < 50
Ethyl Benzene		100-41-4	< 0.3
Other components below reportable levels			50 - < 60

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

If swallowed, seek medical advice immediately and show this container or label. Rinse mouth thoroughly.

Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Exposed individuals may experience eye tearing, redness, and discomfort. Irritation of eyes and mucous membranes. Irritation of nose and throat. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
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Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Ethyl Benzene (CAS 100-41-4)	PEL	435 mg/m3
Stoddard Solvent (CAS 8052-41-3)	PEL	100 ppm 2900 mg/m3 500 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethyl Benzene (CAS 100-41-4)	TWA	20 ppm
Stoddard Solvent (CAS 8052-41-3)	TWA	100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethyl Benzene (CAS 100-41-4)	STEL	545 mg/m3
	TWA	125 ppm 435 mg/m3 100 ppm
Stoddard Solvent (CAS 8052-41-3)	Ceiling	1800 mg/m3
	TWA	350 mg/m3

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Ethyl Benzene (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Chemical splash goggles where there is a potential for eye contact.

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing. Wear suitable protective clothing and gloves.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with organic vapor cartridge.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	Clear, amber liquid
Physical state	Liquid.
Form	Liquid.
Color	Amber
Odor	Mineral spirit odor
Odor threshold	Not available
pH	Not applicable
Melting point/freezing point	Not applicable / Not available
Initial boiling point and boiling range	335 °F (168.33 °C)
Flash point	> 100.0 °F (> 37.8 °C) Setaflash
Evaporation rate	< 1 Ethyl ether = 1
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	2.9 mm Hg
Vapor density	4.815 AIR=1
Relative density	0.897 at 77°F
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	7.42 lb/gal
Percent volatile	49.5 - 50.5 %
VOC (Weight %)	< 450 g/l

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information**Information on likely routes of exposure**

Inhalation	Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes eye irritation.

Ingestion	Expected to be a low ingestion hazard.	
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes and mucous membranes. Exposed individuals may experience eye tearing, redness, and discomfort. Irritation of nose and throat. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.	
Information on toxicological effects		
Acute toxicity	Harmful if inhaled. Narcotic effects. May cause an allergic skin reaction.	
Product	Species	Test Results
450 GYM FINISH		
Acute		
Dermal		
LD50	Rabbit	10158.2803 g/kg estimated
Oral		
LD50	Guinea pig	1279.3177 g/kg estimated
	Mouse	1279.3177 g/kg estimated
	Rabbit	341.1514 g/kg estimated
	Rat	76715.3594 mg/kg estimated
Components	Species	Test Results
Ethyl Benzene (CAS 100-41-4)		
Acute		
Dermal		
LD50	Rabbit	17800 mg/kg
Oral		
LD50	Rat	3500 mg/kg
* Estimates for product may be based on additional component data not shown.		
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	May cause genetic defects.	
Carcinogenicity	May cause cancer.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Ethyl Benzene (CAS 100-41-4)		2B Possibly carcinogenic to humans.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.	
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.	
12. Ecological information		
Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	

Product			Species	Test Results
450 GYM FINISH				
Aquatic				
Crustacea	EC50	Daphnia	1151.0664 mg/l, 48 hours estimated	
Fish	LC50	Fish	1104.5116 mg/l, 96 hours estimated	
Components			Species	Test Results
Ethyl Benzene (CAS 100-41-4)				
Aquatic				
Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours	
Fish	LC50	Fathead minnow (Pimephales promelas)	7.5 - 11 mg/l, 96 hours	

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Ethyl Benzene	3.15
Stoddard Solvent	3.16 - 7.15

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Notice: Saw dust from freshly sanded floors or dust from wood floors that have been abraded between coats will spontaneously catch fire if improperly discarded. Immediately after abrading or sanding wood floors, place dust waste in a sealed, water-filled metal container and immediately remove from building. Notice: Rags or applicators soaked in a combustible liquid will spontaneously catch fire if improperly discarded. Immediately after using rags or applicators soaked in a combustible liquid, place waste in a sealed, water-filled metal container and immediately remove from building. Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT	Not regulated as dangerous goods. Not Regulated For Ground Transportation.
General information	This material is regulated under IATA and IMDG regulations. Contact manufacturer for shipping instructions.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)	
Ethyl Benzene (CAS 100-41-4)	Listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - Yes
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Ethyl Benzene	100-41-4	< 0.3

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Ethyl Benzene (CAS 100-41-4)

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

Ethyl Benzene (CAS 100-41-4)
Stoddard Solvent (CAS 8052-41-3)

US. New Jersey Worker and Community Right-to-Know Act

Ethyl Benzene (CAS 100-41-4)
Stoddard Solvent (CAS 8052-41-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Ethyl Benzene (CAS 100-41-4)
Stoddard Solvent (CAS 8052-41-3)

US. Rhode Island RTK

Ethyl Benzene (CAS 100-41-4)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Ethyl Benzene (CAS 100-41-4) Listed: June 11, 2004

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 04-17-2015
Version # 01
HMIS® ratings Health: 2*
 Flammability: 3
 Physical hazard: 0

Disclaimer

No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

Manufacturer's name and address:



K-FLEX USA

K-FLEX USA
100 Nomaco Drive
Youngsville, NC 27596
USA

Supplier's name and address:

Refer to Manufacturer

Information Telephone No.	:	(800) 765-6475	
Website Address	:	http://www.kflexusa.com	
24 Hr Emergency Telephone #	:	CHEM-TREC: 1-800-424-9300	
Product Identifier	:	KFLEX® 620 Adhesive	
Chemical Name	:	N/Ap	Chemical Family : Mixture
Chemical Formula	:	N/Ap	Trade Name/Synonyms : K-FLEX 620
Molecular Weight	:	N/Ap	Material Use : Neoprene contact adhesive.

SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification per 29CFR 1910 (OSHA Hazard Communication Standard)

Flammable liquids; Category 2
Aspiration hazard; Category 1
Skin corrosion/irritation; Category 2
Serious eye damage/eye irritation; Category 2A
Sensitization, Skin; Category 1
Specific target organ toxicity, single exposure; Narcotic effects; Category 3
Reproductive toxicity; Category 2
Specific target organ toxicity, repeated exposure; Category 2
Hazardous to the aquatic environment, long-term hazard, Category 2

WHMIS Classification

Class B2 — Flammable Liquid;
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

GHS Pictograms



Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor.
May be fatal if swallowed and enters airways.
Causes skin and serious eye irritation.
May cause an allergic skin reaction.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May cause damage to organs <Central nervous system, kidneys, liver>
through prolonged or repeated exposure.

Toxic to aquatic life with long lasting effects.

Precautionary Statements

Obtain special instructions before use. (See Section 7.) Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/.../equipment. Use only non-sparking tools. Take precautionary measures against static discharge. In case of fire: Use fire extinguishers suitable for Classes B, C, or E for extinction. Do not breathe vapors. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection. Wash hands and exposed skin thoroughly after handling. Wash contaminated clothing before reuse. Avoid release to the environment. Collect spillage. Hazardous to the aquatic environment. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents / container in accordance with federal, state, and local laws. Do not allow product to enter drains.

Hazards Not Otherwise Classified

Vapor may cause flash fire! May be an aspiration hazard.

% With Unknown Acute Toxicity : 6% by weight of this product is comprised of ingredients with unknown acute toxicity.

HMIS Rating : * - Chronic Hazard 0 - Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe
*Health: *2 Flammability 3 Reactivity 0*

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (by weight)
Acetone	67-64-1	30.00 – 60.00
Hexanes	110-54-3	10.00 – 30.00
Toluene	108-88-3	10.00 – 30.00
Phenolic resin	25085-50-1	5.00 – 10.00

The exact percentages of the ingredients have been withheld by the manufacturer as trade secrets.

SECTION 4 – FIRST AID MEASURES

- General** : IF exposed or concerned: Get medical advice/attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: call a doctor/physician.
- Skin contact** : Remove/Take off immediately all contaminated clothing. Flush affected skin with gently flowing lukewarm water for at least 20 minutes. Seek immediate medical attention/advice.
- Eye contact** : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
- Ingestion** : Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
- Notes for Physician** : Treat symptomatically.
- Signs and symptoms of short-term (acute) exposure**
- Inhalation* : May cause irritation to the nose, throat, and respiratory tract. Inhalation of high concentrations may cause CNS effects such as nausea, headache, dizziness, fatigue, unconsciousness, and coma. May cause motor incoordination and speech abnormalities. Breathing high concentrations of this material, for example in an enclosed space or by intentional abuse, can cause irregular heartbeats which can cause death.

- Skin* : May cause moderate skin irritation. Product may be absorbed through the skin, producing effects similar to inhalation or ingestion. Allergic skin reaction: Symptoms may include redness, swelling, blistering, and itching.
- Eyes* : Direct contact will cause moderate to severe irritation to the eyes. Symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Ingestion* : May cause irritation to the mouth, throat, and stomach. Symptoms may include abdominal pain, nausea, vomiting, and diarrhea. This material can get into the lungs (aspiration) during swallowing or vomiting. Small amounts in the lungs can cause chemical pneumonitis, possibly leading to chronic lung dysfunction or death.

Effects of long-term (chronic) exposure

- : Chronic exposure may cause drying, cracking, and defatting of the skin. Chronic effects of ingestion and subsequent aspiration into the lungs may cause pneumatocele (lung cavity) formation and chronic lung dysfunction. Prolonged occupational overexposure to solvents may cause irreversible brain and nervous system damage (sometimes referred to as "Solvent or Painter's Syndrome"). Intentional misuse by intentionally concentrating and inhaling the vapors from this product may be harmful or fatal. Toluene, a component of this product, may cause harm to the human fetus, based on tests with laboratory animals. Long term overexposure to Toluene has been associated with peripheral neuropathy (damage to the nerves of the hands and feet), liver effects, kidney effects, impaired color vision and hearing damage.

Indication of need for immediate medical attention or special treatment

- : Difficulty breathing persists after removing the person to fresh air.
Any exposure to the eye which causes irritation.
Ingestion.

SECTION 5 – FIRE FIGHTING MEASURES

- Suitable extinguishing media** : Carbon dioxide, dry chemical powder, appropriate foam or water fog.
- Unsuitable extinguishing media** : water jet
- Hazardous combustion products** : Carbon oxides; Hydrocarbons; Aldehydes; Hydrogen chloride gas; other unidentified organic compounds.

Special fire-fighting procedures/equipment

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. After fires have been extinguished, carefully clean all equipment and surfaces exposed to fumes.

- Environmental precautions** : Avoid release to the environment. Collect spillage. Hazardous to the aquatic environment. Do not allow material to enter drains or contaminate ground water system.

Fire hazards/conditions of flammability

- : Highly flammable liquid. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Vapors may be heavier than air and may collect in confined and low-lying areas. Vapor can travel considerable distance and flashback to a source of ignition. Material will float on water and can be re-ignited at the water's surface. Static discharge may ignite this product's vapors.

Flammability classification (OSHA 29 CFR 1910.1200)

- : Flammable Liquid, Category 2.

Flammability classification (WHMIS)

- : Flammable Liquid Class B2.

Flammability classification (NFPA)

- : Flammable Liquid Class 1B.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Restrict access to area until completion of clean-up. All persons dealing with clean-up should wear the appropriate chemically protective equipment. Refer to Section 8 on this Safety Data Sheet, EXPOSURE CONTROLS / PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.
- Environmental precautions** : Avoid release to the environment. Collect spillage. Hazardous to the aquatic environment. Do not allow product to enter waterways. Do not allow material to contaminate ground water system.
- Spill response / clean-up** : Ventilate area of release. Eliminate all ignition sources. Stop spill or leak at source if safely possible. Use non-sparking tools to contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand), then place absorbent material into a container for later disposal (see Section 13). Do not flush into surface water or sanitary sewer system. Notify the appropriate authorities as required.
- Incompatible materials** : See Section 10.
- Special spill response procedures** : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).
US CERCLA Reportable quantity (RQ): Hexane (5000 lbs / 2270 kg); Acetone (5000 lbs / 2270 kg); Toluene (1000 lbs / 454 kg).

SECTION 7 – HANDLING AND STORAGE

- Special Instructions** : HIGHLY FLAMMABLE LIQUID AND VAPOR. May cause flash fire. Keep away from fire, sources of heat, or sources of electrical discharges. Aspiration Hazard – may enter lungs and cause damage. If ingested, do not induce vomiting. Inhaling fumes may cause dizziness, drowsiness, nausea, headaches, and/or other Central Nervous System (CNS) symptoms. Contains a material that may cause peripheral nervous system damage. Breathing high concentrations can cause irregular heartbeats which may be fatal. Developmental hazard - Contains Toluene, which may cause birth defects or other reproductive harm. Avoid breathing vapors.
- Safe handling procedures** : Wear chemically resistant protective equipment during handling. Use in a well-ventilated area. Training the workers on the potential health hazards associated with product vapor is important. Do not breathe vapors. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Keep away from oxidizing materials. Keep containers tightly closed when not in use. Wash hands and exposed skin thoroughly after handling. Containers of this material may be hazardous when empty, since they retain product residues (vapors, liquid).
- Storage requirements** : Store in a cool, dry, well-ventilated area. No smoking in the area. Do not store near any incompatible materials (see Section 10). Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Protect against physical damage.
- Incompatible materials** : See Section 10.
- Special packaging materials** : Always keep in containers made of the same materials as the supply container.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

- Permissible exposure levels** : No exposure limits have been established for the product itself. Below are exposure limits for the components in the product.

Ingredients	CAS #	ACGIH TLV		OSHA PEL	
		TWA	STEL	PEL	STEL
Acetone	67-64-1	500 ppm	750 ppm	1000 ppm TWA 2400 mg/m ³ TWA	N/Av
Hexanes	110-54-3	50 ppm	N/Av	500 ppm 1800 mg/m ³	N/Av
Toluene	108-88-3	20 ppm	N/Av	200 ppm	300 ppm (10 min)
p-tert-Butylphenol formaldehyde resin	25085-50-1	N/Av	N/Av	N/Av	N/Av

Ventilation and engineering measures

: Use with adequate ventilation. Provide adequate cross air circulation. Use explosion-proof general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection

: Respiratory protection is required if the concentrations exceed the TLV. If the TLV is exceeded, wear a NIOSH/MSHA-approved respirator with organic vapor cartridges.

Skin protection

: Impervious gloves must be worn when using this product. Glove materials such as nitrile rubber or Viton (fluorocarbon rubber) are recommended. Advice should be sought from glove suppliers regarding the glove's breakthrough time for the ingredients listed in Section 3.

Eye / face protection

: Chemical goggles are recommended. A full face shield may also be necessary.

Other protective equipment

: Full chemical-resistant protective clothing should be used whenever splashing is anticipated. An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

: Avoid contact with eyes, skin and clothing. Do not breathe vapors. Do not eat, drink or smoke when using this product. Clean all equipment and clothing, and shower with mild soap and water at end of each work shift.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid	Appearance	: black liquid.
Odor	: Characteristic solvent odor		
Odor threshold	: N/Av	pH	: N/Av
Specific gravity	: 0.83	Boiling point	: > 133°F (>56.5°C)
Coefficient of water/oil distribution	: N/Av	Melting/Freezing point	: N/Av
Solubility in water	: negligible	Vapor pressure (mm Hg @ 20°C / 68°F)	: 180
Evaporation rate (n-Butyl acetate = 1)	: N/Av	Vapor density (Air = 1)	: N/Av
Volatiles (% by weight)	: 80 – 82	General information	: N/Av
Volatile organic compounds (VOCs)	: 615 g/L (Calculated, SCAQMD Rule 1168)		
Particle size	: N/Av	Flammability classification (GHS)	: Flammable Liquid Cat. 2
Flash point	: -15°F (-26°C)	Lower flammable limit (% by vol)	: Not available
Flash point method	: Setaflash closed	Upper flammable limit (% by vol)	: Not available
Auto-ignition temperature	: N/Av	Decomposition temperature	: Not available
Viscosity	: Not available	Oxidizing properties	: Not available
Explosion data: Sensitivity to mechanical impact / static discharge			
	: Static discharge could ignite the vapors of this product. Not expected to be sensitive to mechanical impact.		

SECTION 10 – REACTIVITY AND STABILITY INFORMATION

Stability and reactivity	: Stable under the recommended storage and handling conditions prescribed.
Hazardous polymerization	: Hazardous polymerization does not occur.

Conditions to avoid : Keep this product away from heat, sparks, flame, and other sources of ignition (e.g., pilot lights, electric motors, static electricity).

Materials to avoid and incompatibility

: Strong oxidizing agents; Reducing agents; Acids, Bases.

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Target organs : Central Nervous System (CNS); Eyes; Skin; Kidneys; Lungs; Liver; Heart.

Routes of Exposure : *Inhalation*: YES *Skin Absorption*: YES *Skin and Eyes*: YES *Ingestion*: YES

Toxicological data : See below for individual ingredient acute toxicity data.

Ingredients		LC50 (4 hr) Inhalation, rat, mg/L	LD50	
			Oral, rat, mg/kg	Dermal, rabbit, mg/kg
Acetone	67-64-1	50.1	5800	20000
Hexane	110-54-3	31.86	16000	> 2000
Toluene	108-88-3	28.1	5580	> 5000
p-tert-Butylphenol formaldehyde resin	25085-50-1	N/Av	N/Av	N/Av

Calculated Acute Toxicity Estimates for the Product

Inhalation : > 35 mg/L
Oral : > 8000 mg/kg
Dermal : > 5000 mg/kg

Carcinogenic status : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects : Contains Toluene. Toluene may cause fetotoxic effects at doses which are not maternally toxic, based on animal data.

Germ Cell Mutagenicity :

Mutagenicity Test	Acetone	Hexane	Toluene
Ames Test	N/Av	Negative	N/Av
Dominant Lethal Assay, mouse, male Exposure: Inhalation 6h/d, 5 d/wk for 8 wks	N/Av	Negative	Negative
Mammalian cell gene mutation assay, mouse lymphoma cells	N/Av	N/Av	Negative
Chromosome aberration assay in vivo, rat bone marrow, Intraperitoneal	N/Av	N/Av	Negative
Germ Cell Mutagenicity Assessment	N/Av	Not Mutagenic	Not Mutagenic

Epidemiology : Not available.

Sensitization to material : This product contains a component known to cause allergic skin sensitization reactions.

Synergistic materials : N/Av

Irritancy : Severe eye irritant. Moderate irritant for respiratory system and skin.

Other important hazards : See Section 2 for additional information.

SECTION 12 – ECOLOGICAL INFORMATION

Environmental effects : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.



Important environmental characteristics

	: No data is available on the product itself.
Ecotoxicological	: No data is available on the product itself.
Ecotoxicity	: Both Toluene and Hexane have been assessed to be toxic to aquatic life. Hexane has been assessed to be toxic to aquatic life with long lasting effects. Acetone is not expected to be toxic to aquatic life. Acetone's LC50/96-hour test results are > 100 mg/L.
Component	: Toluene
Toxicity to fish	: 96 h LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/L
Toxicity to invertebrates	: 48 h EC50 (Ceriodaphnia dubia): 3.78 mg/L
Toxicity to algae	: 3 h EC50 (Chlorella vulgaris (Fresh water algae)): 134 mg/L
Toxicity to bacteria	: 24 h IC50 (Bacteria): 84 mg/L
Component	: Hexane
Toxicity to fish	: 96 h LC50 (Pimephales promelas (fathead minnow)): 2.5 mg/L
Toxicity to invertebrates	: 48 h EC50 (Daphnia magna (water flea)): 2.1 mg/L
Toxicity to algae	: 72 h EbL50 (Pseudokirchneriella subcapitata (green algae)): 26 mg/L
Biodegradability	: Acetone : N/Av Readily biodegradable Hexane : 83 % Readily biodegradable Toluene : 100% Readily biodegradable
Bioaccumulative potential	: Acetone : Not expected to bioaccumulate. Hexane : log Pow: 3.90 – 4.11 Toluene : log Pow: 2.73
Mobility in soil	: No data available.
PBT and vPvB assessment	: No data available.
Other adverse effects	: No data available.

SECTION 13 – DISPOSAL CONSIDERATION

Handling for disposal	: Handle waste according to recommendations in Section 7. Empty containers retain residue (liquid and/or vapor) and can be dangerous. Do not cut, weld, drill or grind on or near this container.
Methods of disposal	: Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 – TRANSPORTATION INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN 1133	ADHESIVES containing flammable liquid (Acetone, Hexane)	3	II	
TDG Additional Information	May be shipped as Limited Quantity when transported in containers no larger than 5.0 Litres; in packages not exceeding 30 kg gross mass. Refer to TDG Part 1: 1.11, 1.17, 1.33; and Schedule 1.				
49 CFR/DOT	UN 1133	ADHESIVES containing flammable liquid (Acetone, Hexane)	3	II	
49 CFR/DOT Additional Information	May be shipped as Limited Quantity when transported in containers no larger than 5.0 Litres; in packages not exceeding 30 kg gross mass. Refer to 49 CFR 173.150(b) and Special Provision 149.				

SECTION 15 – REGULATORY INFORMATION

Canadian Information:

Canadian WHMIS Classification: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Controlled Products Regulations (CPR). Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL). The following components are listed on the Canadian Ingredient Disclosure List (IDL): Acetone, Hexane, Toluene.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): Hexane (5000 lbs / 2270 kg); Acetone (5000 lbs / 2270 kg); Toluene (1000 lbs / 454 kg).

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes:

Acute hazard

Chronic hazard.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This product may be subject to SARA notification requirements, since it contains Toxic Chemical constituents above de minimus concentrations. This product contains: Hexane; Toluene.

U.S. State Right To Know Laws

California Proposition 65: Warning! This product contains a chemical known to the State of California to cause developmental harm. This product contains: Toluene.

Other State Right to Know Laws:

On State RTK List?	CAS No.	CA	MA	MN	NJ	NY	PA	RI
Acetone	67-64-1	YES	YES	YES	YES	YES	YES	YES
Hexane	110-54-3	YES	YES	YES	YES	YES	YES	YES
Toluene	108-88-3	YES	YES	YES	YES	YES	YES	YES

SECTION 16 – OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstract Services

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980

CFR: Code of Federal Regulations

CNS: Central Nervous System

DOT: Department of Transportation

DSL: Domestic Substances List

EPA: Environmental Protection Agency

GHS: Globally Harmonized System

IARC: International Agency for Research on Cancer

IDL: Ingredient Disclosure List

Inh: Inhalation

N/Av: Not Available

N/Ap: Not Applicable

NIOSH: National Institute of Occupational Safety and Health

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PEL: Permissible exposure limit

RCRA: Resource Conservation and Recovery Act

SARA: Superfund Amendments and Reauthorization Act

STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

Disclaimer of Liability

The Information presented herein is supplied as a guide to those who handle or use this product and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive. The manner and conditions of use and handling may involve other and additional considerations. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.

No warranty of any kind is given or implied. K-FLEX USA will not be liable for any damages, losses, injuries or consequential damages which may result from the use or reliance on any information contained herein. This Safety Data Sheet is valid for three (3) years.

Prepared By:

K-FLEX USA
100 Nomaco Drive
Youngsville, NC 27596
USA

(800) 765-6475

Visit our Website at

: <http://www.kflexusa.com>

Revision date:

: 19-Nov-2014

End of Document

DOW CORNING

DOW CORNING CORPORATION

Material Safety Data Sheet

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DOW CORNING(R) 732 MULTI -PURPOSE SEALANT CLEAR

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900

Customer Service: (989) 496-6000

Product Disposal Information: (989) 496-6315

CHEMTREC: (800) 424-9300

MSDS No.: 01890573

Revision Date: 2002/11/26

Generic Description: Silicone elastomer

Physical Form: Paste

Color: Colorless

Odor: Acetic acid odor

NFPA Profile: Health 2 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. OSHA HAZARDOUS COMPONENTS

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
4253-34-3	1.0 - 5.0	Methyltriacetoxysilane
17689-77-9	1.0 - 5.0	Ethyltriacetoxysilane

The above components are hazardous as defined in 29 CFR 1910.1200.

3. EFFECTS OF OVEREXPOSURE

Acute Effects

Eye: Direct contact may cause moderate irritation.

Skin: May cause moderate irritation.

Inhalation: Irritates respiratory passages very slightly.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: No known applicable information.

Inhalation: No known applicable information.

Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

DOW CORNING(R) 732 MULTI -PURPOSE SEALANT CLEAR

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

4. FIRST AID MEASURES

Eye:	Immediately flush with water for 15 minutes. Get medical attention.
Skin:	Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.
Inhalation:	No first aid should be needed.
Oral:	No first aid should be needed.
Comments:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	Not applicable.
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	Carbon dioxide (CO ₂). Water spray. Dry chemical. Foam. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan.
Unusual Fire Hazards:	None.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Silicon dioxide. Carbon oxides and traces of incompletely burned carbon compounds. Hydrogen. Formaldehyde.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up:	Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements. Wipe up or scrape up and contain for salvage or disposal. Observe all personal protection equipment recommendations described in Sections 5 and 8. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable.
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**DOW CORNING CORPORATION
Material Safety Data Sheet****DOW CORNING(R) 732 MULTI -PURPOSE SEALANT CLEAR**

Note: See section 8 for Personal Protective Equipment for Spills. Call Dow Corning Corporation, (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Product evolves acetic acid (HOAc) when exposed to water or humid air. Provide ventilation during use to control HOAc within exposure guidelines or use respiratory protection. Avoid eye contact. Avoid skin contact.

Keep container closed and store away from water or moisture.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Component Exposure Limits**

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
4253-34-3	Methyltriacetoxysilane	See acetic acid comments.
17689-77-9	Ethyltriacetoxysilane	See acetic acid comments.

Acetic acid is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL: TWA 10 ppm and ACGIH TLV: TWA 10 ppm, STEL 15 ppm.

Engineering Controls

Local Ventilation: Recommended.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Suitable Gloves: Silver Shield(R). 4H(R).

Inhalation: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

Personal Protective Equipment for Spills

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

DOW CORNING(R) 732 MULTI -PURPOSE SEALANT CLEAR

Inhalation/Suitable
Respirator: No respiratory protection should be needed.

Precautionary Measures: Avoid eye contact. Avoid skin contact. Use reasonable care.

Comments: Product evolves acetic acid (HOAc) when exposed to water or humid air. Provide ventilation during use to control HOAc within exposure guidelines or use respiratory protection.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Paste
Color: Colorless
Odor: Acetic acid odor
Specific Gravity @ 25°C: 1.04
Viscosity: Not determined.
Freezing/Melting Point: Not determined.
Boiling Point: Not determined.
Vapor Pressure @ 25°C: Not determined.
Vapor Density: Not determined.
Solubility in Water: Not determined.
pH: Not determined.
Volatile Content: Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous
Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Water, moisture, or humid air can cause hazardous vapours to form as described in Section 8 . Oxidizing material can cause a reaction.

11. TOXICOLOGICAL INFORMATION**Special Hazard Information on Components**

No known applicable information.

12. ECOLOGICAL INFORMATION**Environmental Fate and Distribution**

DOW CORNING(R) 732 MULTI -PURPOSE SEALANT CLEAR

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	≤ 1	>1 and ≤ 100	>100
Acute Terrestrial Toxicity	≤ 100	>100 and ≤ 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS**RCRA Hazard Class (40 CFR 261)**

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal.

Call Dow Corning Corporate Environmental Management, (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION**DOT Road Shipment Information (49 CFR 172.101)**

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

DOW CORNING(R) 732 MULTI -PURPOSE SEALANT CLEAR**EPA SARA Title III Chemical Listings****Section 302 Extremely Hazardous Substances:**

None.

Section 304 CERCLA Hazardous Substances:

None.

Section 312 Hazard Class:

Acute: Yes
Chronic: No
Fire: No
Pressure: No
Reactive: No

Section 313 Toxic Chemicals:

None present or none present in regulated quantities.

Supplemental State Compliance Information**California**

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
7631-86-9	10.0 - 30.0	Silica, amorphous

New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
70131-67-8	> 60.0	Dimethyl siloxane, hydroxy-terminated
7631-86-9	10.0 - 30.0	Silica, amorphous
4253-34-3	1.0 - 5.0	Methyltriacetoxysilane
17689-77-9	1.0 - 5.0	Ethyltriacetoxysilane

Pennsylvania

**DOW CORNING CORPORATION
Material Safety Data Sheet****DOW CORNING(R) 732 MULTI -PURPOSE SEALANT CLEAR**

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
70131-67-8	> 60.0	Dimethyl siloxane, hydroxy-terminated
7631-86-9	10.0 - 30.0	Silica, amorphous

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

DOW CORNING CORPORATION
Material Safety Data Sheet

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Version: 4.5

Revision Date: 2013/05/31

DOW CORNING(R) 795 SILICONE BUILDING SEALANT, WHITE**1. PRODUCT AND COMPANY IDENTIFICATION**

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900

Customer Service: (989) 496-6000

Product Disposal Information: (989) 496-6315

CHEMTREC: (800) 424-9300

MSDS No.: 01595717

Revision Date: 2013/05/31

Generic Description: Silicone elastomer

Physical Form: Paste

Color: Off-White

Odor: Slight odor

NFPA Profile: Health 0 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION**POTENTIAL HEALTH EFFECTS****Acute Effects**

Eye: Direct contact may cause temporary redness and discomfort.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: No significant effects expected from a single short-term exposure.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: Repeated or prolonged exposure may cause irritation.

Inhalation: No known applicable information.

Oral: Repeated ingestion or swallowing large amounts may injure internally.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

DOW CORNING(R) 795 SILICONE BUILDING SEALANT, WHITE

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

None present. This is not a hazardous material as defined in the OSHA Hazard Communication Standard.

4. FIRST AID MEASURES

Eye:	If irritation occurs, flush eye(s) with lukewarm gently flowing water for 5 minutes. Obtain medical attention.
Skin:	No health effects expected. If irritation does occur flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, obtain medical advice.
Inhalation:	If symptoms are experienced remove source of contamination or move victim to fresh air. If irritation persists, obtain medical advice.
Oral:	If irritation or discomfort occur, obtain medical advice.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	Not applicable.
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO ₂), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

6. ACCIDENTAL RELEASE MEASURES

DOW CORNING(R) 795 SILICONE BUILDING SEALANT, WHITE

Containment/Clean up: Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See Section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Traces of benzene (carcinogen) may form if heated in air above 300°F (149°C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements. Avoid eye contact. Avoid skin contact. Do not take internally.

Use reasonable care and store away from oxidizing materials. This material in its finely divided form presents an explosion hazard. Follow NFPA 654 (for chemical dusts) or 484 (for metal dusts) as appropriate for managing dust hazards to minimize secondary explosion potential.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Component Exposure Limits**

There are no components with workplace exposure limits.

Engineering Controls

Local Ventilation: None should be needed.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.
Skin: Washing at mealtime and end of shift is adequate.

DOW CORNING(R) 795 SILICONE BUILDING SEALANT, WHITE

Suitable Gloves: Avoid skin contact by implementing good industrial hygiene practices and procedures. Select and use gloves and/or protective clothing to further minimize the potential for skin contact. Consult with your glove and/or personnel protective equipment manufacturer for selection of appropriate compatible materials.

Inhalation: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

Personal Protective Equipment for Spills

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Inhalation/Suitable Respirator: No respiratory protection should be needed.

Precautionary Measures: Avoid eye contact. Avoid skin contact. Do not take internally. Use reasonable care.

Comments: Traces of benzene (carcinogen) may form if heated in air above 300°F (149°C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Paste
Color: Off-White
Odor: Slight odor
Specific Gravity @ 25°C: 1.52
Viscosity: Not determined.
Freezing/Melting Point: Not determined.
Boiling Point: Not determined.
Vapor Pressure @ 25°C: Not determined.
Vapor Density: Not determined.
Solubility in Water: Not determined.
pH: Not determined.
Volatile Content: Not determined.
Flash Point: Not applicable.
Autoignition Temperature: Not determined.
Flammability Limits in Air: Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

DOW CORNING(R) 795 SILICONE BUILDING SEALANT, WHITE**10. STABILITY AND REACTIVITY**

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Metal oxides. Formaldehyde. Silicon dioxide. Quartz.

11. TOXICOLOGICAL INFORMATIONSpecial Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATIONEnvironmental Fate and Distribution

Air:	This product is a solid consisting of a high molecular weight silicone polymer and other solid materials. Unless milled to produce a dust or particles, it is unlikely to give rise to atmospheric contamination.
Water:	This product is a solid which is completely insoluble in water. As the specific gravity is >1, it will sink to the bottom of the water course.
Soil:	This product will enter the terrestrial environment if, as a component of municipal or industrial solid waste the product is landfilled. It is unlikely that further significant transformation of the product will occur.
Degradation:	High molecular weight polymer which is amenable to recycling. The product is not biodegradable. The product is removed >80% during the sewage treatment process.

Environmental Effects

DOW CORNING(R) 795 SILICONE BUILDING SEALANT, WHITE

Toxicity to Water Organisms: This product has low water solubility and should not present a risk to aquatic organisms.

Toxicity to Soil Organisms: This product is a solid and does not contain significant concentrations of water soluble constituents that may be leached from the product. It is therefore not likely to present a danger to terrestrial organisms.

Bioaccumulation: This product is a solid which is not soluble in water and if ingested will not be absorbed.

Fate and Effects in Waste Water Treatment Plants

This product is a solid rubber type material which is unlikely to have any adverse effect on bacteria.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS**RCRA Hazard Class (40 CFR 261)**

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal. Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION**DOT Road Shipment Information (49 CFR 172.101)**

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

DOW CORNING(R) 795 SILICONE BUILDING SEALANT, WHITE

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings**Section 302 Extremely Hazardous Substances (40 CFR 355):**

None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):

None.

Section 311/312 Hazard Class (40 CFR 370):

Acute: No
Chronic: No
Fire: No
Pressure: No
Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):

None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information**California**

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>	
67-56-1	<0.1000	Methyl alcohol	Developmental toxin.
108-88-3	<0.0100	Toluene	Developmental toxin.

New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
471-34-1	40.0 - 60.0	Calcium carbonate

DOW CORNING(R) 795 SILICONE BUILDING SEALANT, WHITE

70131-67-8	15.0 - 35.0	Dimethyl siloxane, hydroxy-terminated
63148-62-9	7.0 - 13.0	Polydimethylsiloxane
112945-52-5	3.0 - 7.0	Amorphous fumed silica
80801-30-5	1.0 - 5.0	Phenylmethyl siloxane, hydroxy-terminated
14808-60-7	<1.0	Quartz

Pennsylvania

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
471-34-1	40.0 - 60.0	Calcium carbonate
70131-67-8	15.0 - 35.0	Dimethyl siloxane, hydroxy-terminated
63148-62-9	7.0 - 13.0	Polydimethylsiloxane
112945-52-5	3.0 - 7.0	Amorphous fumed silica

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

Safety Data Sheet

1100 WALL BASE ADHESIVE

Safety Data Sheet dated: 7/16/2015 - version 3

Date of first edition: 5/13/2015

1. IDENTIFICATION

Product identifier

Mixture identification:

Trade name: 1100 WALL BASE ADHESIVE

Recommended use of the chemical and restrictions on use

Recommended use: Adhesive

Restrictions on use: N.A.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company: Roppe Holding Company

1602 North Union St.

44830-1158 - Fostoria - OH - USA

Phone: 1-800-537-9527

Emergency 24 hour numbers:

(USA) CHEMTREC 1-800-424-9300

(Canada) CANUTEC 1-613-996-6666

2. HAZARD(S) IDENTIFICATION

Classification of the chemical

Classification of the chemical

No specific hazards are encountered under normal product use.

Label elements

Code	Description
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501.A	Dispose of contents/container in accordance with applicable regulations.

Ingredient(s) with unknown acute toxicity:

None

Hazards not otherwise classified identified during the classification process:

None

This product contains crystalline silica (quartz sand). IARC has classified crystalline silica as a Group 1 carcinogen. Both IARC and NTP consider silica as a known human carcinogen. Evidence is based on the chronic and long-term exposure workers have had to respirable sized crystalline silica dust particles. Because this product is in liquid or paste form, it does not pose a dust hazard; therefore, this classification is not relevant. (Note: sanding of the hardened product may create a silica dust hazard)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

N.A.

Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

List of components

Quantity	Name	Ident. Numb.	Classification
0.1-1 %	Silica Sand	CAS:14808-60-7	Carc. 1A, H350.A; STOT RE 1, H372.A

4. FIRST AID MEASURES

Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

Wash immediately with water.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

Most important symptoms/effects, acute and delayed

N.A.

Indication of any immediate medical attention and special treatment needed

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO₂).

Unsuitable extinguishing media:

None in particular.

Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products: N.A.

Explosive properties: N.A.

Oxidizing properties: N.A.

Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Exercise the greatest care when handling or opening the container.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities

Storage temperature: N.A.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

List of components with OEL value

Component	OEL Type	Country	Ceiling	Long Term mg/m ³	Long Term ppm	Short Term mg/m ³	Short Term ppm	Behaviour	Note
Silica Sand	ACGIH			0,025					A2 - Suspected Human Carcinogen;lung cancer;pulmonary fibrosis;

Appropriate engineering controls: N.A.

Individual protection measures

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

N.A.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state: Liquid

Appearance and colour: Paste beige

Odour: Slightly latex like

Odour threshold: N.A.

pH: 9.00

Melting point / freezing point: N.A.

Initial boiling point and boiling range: >100 °C (212 °F)

Flash point: >100 °C (212 °F)

Evaporation rate: same as water

Upper/lower flammability or explosive limits: N.A.

Vapour density: 1.15

Vapour pressure: 1.00 (kPa 50°C)

Relative density: N.A.

Solubility in water: Soluble

Solubility in oil: N.A.

Partition coefficient (n-octanol/water): N.A.

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Viscosity: N.A.

Explosive properties: N.A.

Oxidizing properties: N.A.

Solid/gas flammability: N.A.

Other information

Substance Groups relevant properties N.A.

Miscibility: N.A.

Fat Solubility: N.A.

Conductivity: N.A.

10. STABILITY AND REACTIVITY

Reactivity

Stable under normal conditions

Chemical stability

Data not Available.

Possibility of hazardous reactions

None.

Conditions to avoid

Stable under normal conditions.

Incompatible materials

None in particular.

Hazardous decomposition products

None.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological information on main components of the mixture:

Silica Sand	a) acute toxicity	LD50 Oral Rat = 500mg/kg
-------------	-------------------	--------------------------

If not differently specified, the information required in the regulation and listed below must be considered as N.A.

- a) acute toxicity
- b) skin corrosion/irritation
- c) serious eye damage/irritation
- d) respiratory or skin sensitisation
- e) germ cell mutagenicity
- f) carcinogenicity
- g) reproductive toxicity
- h) STOT-single exposure
- i) STOT-repeated exposure
- j) aspiration hazard

Substance(s) listed on the IARC Monographs:

Silica Sand Group 1

Substance(s) listed as OSHA Carcinogen(s):

Silica Sand

Substance(s) listed as NIOSH Carcinogen(s):

Silica Sand

Substance(s) listed on the NTP report on Carcinogens:

Silica Sand

12. ECOLOGICAL INFORMATION

Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of components with eco-toxicological properties

Quantity	Component	Ident. Numb.	Ecotox Infos
0.1-1 %	Silica Sand	CAS: 14808-60-7	LC50 a) Aquatic acute toxicity carp> 10000,00000mg/L 72h

Persistence and degradability

N.A.

Bioaccumulative potential

N.A.

Mobility in soil

N.A.

Other adverse effects

N.A.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste must be handled in accordance with all federal, state, provincial, and local regulations. Consult authorities before disposal.

14. TRANSPORT INFORMATION

UN number

ADR-UN number: N/A

DOT-UN Number: N/A

IATA-Un number: N/A

IMDG-Un number: N/A

UN proper shipping name

ADR-Shipping Name: N/A

DOT-Proper Shipping Name: N/A

IATA-Technical name: N/A

IMDG-Technical name: N/A

Transport hazard class(es)

ADR-Class: N/A

DOT-Hazard Class: N/A

IATA-Class: N/A

IMDG-Class: N/A

Packing group

ADR-Packing Group: N/A

DOT-Packing group: N/A

IATA-Packing group: N/A

IMDG-Packing group: N/A

Environmental hazards

Marine pollutant: No

Environmental Pollutant: N.A.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N.A.

Special precautions

Department of Transportation (DOT):

DOT-Special Provision(s): N/A

DOT-Label(s): N/A

DOT-Symbol: N/A

DOT-Cargo Aircraft: N/A

DOT-Passenger Aircraft: N/A

DOT-Bulk: N/A

DOT-Non-Bulk: N/A

Road and Rail (ADR-RID):

ADR-Label: N/A

ADR-Hazard identification number: N/A

ADR-Tunnel Restriction Code: N/A

Air (IATA):

IATA-Passenger Aircraft: N/A

IATA-Cargo Aircraft: N/A

IATA-Label: N/A

IATA-Subrisk: N/A

IATA-Erg: N/A

IATA-Special Provisions: N/A

Sea (IMDG):

IMDG-Stowage Code: N/A

IMDG-Stowage Note: N/A

IMDG-Subrisk: N/A

IMDG-Special Provisions: N/A

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-EMS: N/A

IMDG-MFAG: N/A

15. REGULATORY INFORMATION**USA - Federal regulations****TSCA - Toxic Substances Control Act****TSCA inventory:**

All the components are listed on the TSCA inventory

TSCA listed substances:

Silica Sand is listed in TSCA Section 8b

SARA - Superfund Amendments and Reauthorization Act**Section 302 - Extremely Hazardous Substances:**

no substances listed

Section 304 - Hazardous substances:

no substances listed

Section 313 - Toxic chemical list:

no substances listed

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act**Substance(s) listed under CERCLA:**

no substances listed

CAA - Clean Air Act

CAA listed substances:

no substances listed

CWA - Clean Water Act

CWA listed substances:

no substances listed

USA - State specific regulations

California Proposition 65

Substance(s) listed under California Proposition 65:

Silica Sand

Listed as carcinogen

Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:

Silica Sand

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

Silica Sand

New Jersey Right to know

Substance(s) listed under New Jersey Right to know:

Silica Sand

16. OTHER INFORMATION

Code	Description
H350.A	May cause cancer if inhaled.
H372.A	Causes damage to organs through prolonged or repeated exposure if inhaled.

Safety Data Sheet dated: 7/16/2015 - version 3

Product code: 4110

Additional classification information



HMIS Health: 1 = Slight

HMIS Health - Is health hazard chronic?: Yes

HMIS Flammability: 1 = Combustible if heated

HMIS Reactivity: 0 = Minimal

HMIS P.P.E.: Safety glasses, gloves

NFPA Health: 1 = Slight

NFPA Flammability: 1 = Combustible if heated

NFPA Reactivity: 0 = Minimal

NFPA Special Risk: N.A.

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
CLP: Classification, Labeling, Packaging.
EINECS: European Inventory of Existing Commercial Chemical Substances.
INCI: International Nomenclature of Cosmetic Ingredients.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
GefStoffVO: Ordinance on Hazardous Substances, Germany.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
DNEL: Derived No Effect Level.
PNEC: Predicted No Effect Concentration.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
WGK: German Water Hazard Class.
KSt: Explosion coefficient.

Paragraphs modified from the previous revision:

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 4. FIRST AID MEASURES

Material Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME: Roberts 2001 Sheet Goods Adhesive
Product Code: 2001

MANUFACTURER : ROBERTS CONSOLIDATED INDUSTRIES, INC.
ADDRESS : 300 CROSS PLAINS BLVD.
DALTON, GA 30721

EMERGENCY PHONE : (800) 424-9300
INFORMATION PHONE : (706) 277-5294

EFFECTIVE DATE: 06/10/11
Issued by: M. King

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS Number</u>	<u>Wt%</u>	<u>R Phrases</u>
Water:	7732-18-5	30 - 40	
Inert Filler	1332-58-7	25 - 35	
Modified Hydrocarbon Resin Blend	NA	20 - 30	
Non-Hazardous Proprietary Additives:	NA	7 - 12	
Gum Rosin	8050-09-7	2 - 4	

Ingredients non hazardous as defined by OSHA 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

Caution! May cause slight eye, skin and respiratory tract irritation. Ingestion may cause gastric disturbances.

4. FIRST-AID MEASURES

General Advice:

Remove contaminated clothing.

Inhalation

Move victim to fresh air and keep the person calm. Assist in breathing if necessary. Seek medical attention.

Skin Contact

Wash with soap and water. If irritation develops, seek medical attention.

Eye Contact

Flush with copious amounts of water for at least 15 minutes. If irritation develops, seek medical attention.

Ingestion

Do not induce vomiting. Wash mouth with water and then drink plenty of water. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

5. FIRE-FIGHTING MEASURES

Flash Point: NA

Extinguishing Media

Dry chemical, carbon dioxide, foam, water/ water spray.

Hazardous Combustion Products

Carbon dioxide, carbon monoxide, unknown by-products of combustion otherwise no particular hazards known.

Protection of Firefighters

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions - Wear appropriate respiratory protection. Use personal protective clothing. Ensure adequate ventilation.

Environmental Precautions - This product is not regulated by RCRA. This product is not regulated by CERCLA ('Superfund').

Clean Up - Spills should be contained, solidified, and placed in suitable containers for disposal.

7. HANDLING AND STORAGE

Handling:

Protection against fire and explosion: No explosion proofing necessary

Storage:

Store protected against freezing and extreme heat.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls - Local exhaust should be used to maintain proper ventilation and air flow.

Personal Protective Equipment

- Respiratory Protection
Normally none required with good mechanical ventilation.
- Skin Protection
Chemical resistant protective gloves (butyl rubber, nitrile rubber, pvc or polyvinyl alcohol).
- Eye/Face Protection
Tightly fitting safety goggles (chemical goggles).
- General Safety and hygiene measures:
Wear protective clothing as necessary to prevent contact. Avoid inhalation of vapors/mists. Wash soiled clothing immediately.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Heavy paste
Color:	Beige/Tan
Odor:	Very mild non-offensive odor.
Specific Gravity:	1.25
Vapor Density:	Heavier than Air
Freezing Point:	approx. 32°F
V.O.C.:	0 g/l

V.O.C. by Weight: 0% (Method 310)
SOLUBILITY IN WATER: miscible

10. STABILITY AND REACTIVITY

Chemical Stability: Stable

Conditions to Avoid: Excessive heat.

Materials to Avoid: Strong oxidizers.

Hazardous Polymerization: ☐ may occur ☒ will not occur

11. TOXICOLOGICAL INFORMATION

Acute toxicity

- Ingestion ND
- Skin Contact ND
- Inhalation ND

12. ECOLOGICAL INFORMATION

Environmental Mobility:

No data is available on the product itself. Product should not be allowed to enter drains nor sources of water or areas where it can affect ground or surface waters.

Bioaccumulation Potential:

No data is available on the product itself.

Persistence:

No data is available on the product itself.

13. DISPOSAL CONSIDERATIONS

Disposal

Incinerate or bury dried material in landfill in accordance with federal, state and local regulations.
For liquid material dispose of in licensed facility in accordance with federal, state, and local regulations (non-hazardous material).

Wastes or Residues

Same as above.

Package Disposal:

Dispose of in licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. TRANSPORT INFORMATION

Road:

D.O.T. PROPER SHIPPING NAME (49CFR172.101 - 102): ADHESIVE.

D.O.T. HAZARD CLASSIFICATION (49CFR172.101-102):

PRIMARY: NONE SECONDARY: NONE

D.O.T. LABELS REQUIRED (49CFR172.101-102): NONE

D.O.T. PLACKARDS REQUIRED (49CFR172.504): NONE

BILL OF LADING DESCRIPTION: ADHESIVE, NOS UN/NA CODE: N/A

Sea:

Proper shipping name: **Non-Regulated**

Sea – IMO/IMDG Class: N/A

UN Nr: N/A

Label: N/A

Packing Group: N/A

Marine Pollutant: N/A

EMS: N/A

Air

Proper shipping name: **Non-Regulated**

Air – ICAO/IATA Class: N/A

UN Nr: N/A

Label : N/A

Sub Class: N/A

Packing Group: N/A

Pack Instr. Passenger: N/A

Pack Instr. Cargo: N/A

Remarks: No dangerous goods in the meaning of USDOT, IMDG, IATA/IMO.

15. REGULATORY INFORMATION

Federal Regulations:

HCS Classification Not regulated

SARA 311/312 Classification: Not regulated

SARA 313 - Supplier Notification

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372:

None required.

SARA 302 Extremely Hazardous Substances: None required.

TSCA: All components are on the Toxic Substances Control Act (TSCA) inventory.

Canada

WHMIS (Canada) Not controlled under WHMIS (Canada).

Canadian lists Canadian NPRI: None required.

16. OTHER INFORMATION

Hazardous Material Information System (U.S.A.)

Health:	1
Flammability:	0
Physical hazards:	0
PPE:	B

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

Prepared by Roberts Product Safety & Regulatory Compliance Group, (706) 277-5294.

Date of issue: 06/10/2011

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY EXPRESSED OR IMPLIED IS MADE. ROBERTS URGES USERS OF THIS PRODUCT TO EVALUATE ITS SUITABILITY AND COMPLIANCE WITH LOCAL REGULATIONS AS ROBERTS CANNOT FORESEE THE FINAL USE OF THE PRODUCT, NOR THE FINAL LOCATION OF USAGE.

MATERIAL SAFETY DATA

PRODUCT NAME: 2057 PREMIUM VINYL COMPOSTION TILE ADHESIVE
PRODUCT CODE: F-3057

HMS CODES: H F R P
0 0 0 B

SECTION 1 - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: ROBERTS CONSOLIDATED INDUSTRIES, INC.
ADDRESS: 2501 Lakeview Drive, Mexico, Mo 65265
EMERGENCY PHONE: (800)424-9300 (Chemtrec)
DATE REVISED: 09/01/01

INFORMATION PHONE: (905) 791-4444
NAME OF PREPARER: Peter Sharko

SECTION 11 - HAZARDOUS INGREDIENTS/SARA 111 INFORMATION

No reportable quantities of hazardous ingredients are present per OSHA regulations: 29 CFR 1910-1200.
No toxic chemical(s) subject to reporting requirements of Section 313 of Title 111 and of 40 CFR 372 are present.

SECTION 111 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT:	210° F	SPECIFIC GRAVITY (H2O=1): 0.99
VAPOR DENSITY:	Heavier than air	EVAPORATION RATE: Slower than ether
COATING V.O.C.:	0 grams/liter calculated	pH: 9-10
SOLUBILITY IN WATER:	Misable in water.	
APPEARANCE AND ODOR:	Beige, viscous liquid with a resinous odor.	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	N/A	METHOD USED:	N/A
FLAMMABLE LIMITS IN AIR BY VOLUME -		LOWER:	N/A
EXTINGUISHING MEDIA:	Foam, CO2, Dry Chemical	UPPER:	N/A
SPECIFIC FIREFIGHTING PROCEDURES:	None.		
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None.		

SECTION V - REACTIVITY DATA

STABILITY: Stable
INCOMPATIBILITY: (Materials to avoid): Strong oxidizers.
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Combustion products.
HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Excessive Heat

SECTION VI - HEALTH HAZARD DATA

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: None.
SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE: Contact with eyes and skin may result in irritation.
SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: None.
INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: Potential G.I. blockage.
HEALTH HAZARDS (Acute/Chronic):
CARCINOGENICITY: NTP? No

Acute: None.

Chronic: None.

IARC MONOGRAPHS? No

OSHA REGULATED? No

This product contains **no carcinogens** as listed by NTP, IARC and OSHA.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Pre-existing skin disorders.

EMERGENCY AND FIRST AID PROCEDURES:

EYES:	Flush with large amounts of water for 15 minutes. See physician if irritation develops.
SKIN:	Wash with soap and water. Consult physician if irritation develops.
INGESTION:	Do not induce vomiting. If victim is conscious, dilute with water. Contact physician immediately.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Contain spill by diking to prevent spreading. Use absorbent material to collect and contain for salvage or disposal.

WASTE DISPOSAL METHOD: Discarded spill residue may be incinerated. Do not incinerate sealed containers. Dispose according to Federal, State and local regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep containers from excessive heat and freezing. Keep containers tightly closed when not in use. **Keep out of reach of children.**

OTHER PRECAUTIONS: None.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: None should be required.

VENTILATION: General dilution for occupant comfort.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: None.

WORK/HYGIENE PRACTICES: Standard hygiene and safe handling procedures are believed to be generally applicable.

PROTECTIVE GLOVES: Rubber Gloves.

EYE PROTECTION: Goggles

SECTION IX - DISCLAIMER

DISCLAIMER: The information accumulated herein is believed to be accurate, but is not warranted to be whether originating with the company or not. Each user should review and determine for themselves, the applicability of the information in the specific context of the intended use.

KEEP OUT OF REACH OF CHILDREN

Manufactured by: ROBERTS CONSOLIDATED INDUSTRIES INC.

Material Safety Data Sheet

according to Regulation (EC) 1907/2006



Product name : Lascaux Fixative Spray (2070)
Revision : 09.12.2009 **Version :** 7.0.0
Print date : 30.06.2011

01. Identification of the substance/preparation and of the company/undertaking

Product name

Lascaux Fixative Spray (2070)

Manufacturer/Supplier

Lascaux Colours & Restauro
Barbara Diethelm AG

Street/P.O.Box

Zürichstrasse 42

Country code/Postal code/Town/City

8306 Brüttsellen

Telephone / Telefax

+41 44 807 41 41 / +41 44 807 41 40

Contact

techsupport@lascaux.ch

Emergency information

+41 44 251 51 51 (Tox Center) _____ + +1 800 468 6942 (for U.S.A.)

02. Hazards identification

Hazard designation

Extremely flammable. · Irritating to eyes. · Vapours may cause drowsiness and dizziness.

Classification : F+ ; R 12 · Xi ; R 36 · R 67

03. Composition/information on ingredients

Chemical characterization

Pure acrylic resin in organic solvents as aerosol.

Hazardous components

PROPAN-2-OL ; EC-No. : 200-661-7 ; CAS-No. : 67-63-0

Percentage : 35 - 40 %

Classification : F ; R 11 Xi ; R 36 R 67

PROPANE ; CAS-No. : 74-98-6

Percentage : 10 - 15 %

Classification : F+ ; R 12

BUTANE ; CAS-No. : 106-97-8

Percentage : 10 - 15 %

Classification : F+ ; R 12

XYLENE ; EC-No. : 215-535-7 ; CAS-No. : 1330-20-7

Percentage : 5 - 10 %

Classification : R 10 Xn ; R 20/21 Xi ; R 38

ETHER DERIVATIVE

Percentage : 5 - 10 %

Classification : F ; R 11 Xi ; R 36/37/38

ETHER

Percentage : 5 - 10 %

Classification : F+ ; R 12 Substance with a Community workplace exposure limit.

ESTER DERIVATIVE

Percentage : 5 - 10 %

Classification : R 10 Xi ; R 36

Material Safety Data Sheet

according to Regulation (EC) 1907/2006



Product name : Lascaux Fixative Spray (2070)
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For the wording of the listed risk phrases refer to section 16.

04. First-aid measures

General

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

After inhalation

Take the casualty into the fresh air and keep warm. Keep at rest. Irregular breathing/no breathing: artificial respiration. Unconsciousness: lateral position - call a physician.

After skin contact

Immediately remove all contaminated clothing. Wash away with soap and water and rinse. Do NOT use solvents or thinners.

After eye contact

Remove contact lenses, keep eyelids open. Flush with plenty of water (10 - 15 min.). Call a physician.

After ingestion

Contact a doctor immediately. Keep at rest. Do not induce vomiting.

05. Fire-fighting measures

Suitable extinguishing media

Alcohol resistant foam, CO₂, powders, water spray.

Unsuitable extinguishing media

Waterjet.

Special risk posed by the substance or by the actual preparation, its combustion products or gases discharged

Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

Special protective equipment

Appropriate breathing apparatus may be required.

Additional information

Cool endangered containers with water in case of fire. Do not allow the quenching water into the sewage system.

06. Accidental release measures

Personal precautions

Remove ignition sources. Provide for sufficient ventilation. Do not inhale the vapour. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

Do not empty into drains. If the product contaminates lakes, rivers or sewages, inform appropriate authorities in accordance with local regulations.

Methods for cleaning up/collecting

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean preferably with a detergent; avoid use of solvents.

Material Safety Data Sheet

according to Regulation (EC) 1907/2006



Product name : Lascaux Fixative Spray (2070)
Revision : 09.12.2009 **Version :** 7.0.0
Print date : 30.06.2011

07. Handling and storage

Information for safe handling

Prevent the creation of inflammable or explosive concentrations of vapour in air and avoid vapour concentrations higher than the OEL (=Occupational Exposure Limit). Additionally, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Preparation may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing. No sparking tools should be used. Avoid contact with skin and eyes. Do not inhale the vapour. Do not eat or drink during work - no smoking. Comply with the health and safety at work laws. For personal protection see Section 8. Gas mask in case of spray processing.

Information about protection against explosions and fires

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

Requirements to be met by storerooms and containers

Keep container tightly closed. Never use pressure to empty: container is not a pressure vessel. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical equipment should be protected to the appropriate standard. Floors should be of the conducting type.

Information about separation of incompatible products

Keep away from oxidizing agents, from strongly alkaline and strongly acid materials.

Further information about storage conditions

Always keep in containers of same material as the original one. See also instructions on the label. Avoid heating and direct sunlight. Keep away from ignition sources - No smoking. Keep containers dry and cool. Keep containers in a well-ventilated place. Comply with the health and safety at work laws.

Storage class (VCI) : 2B

08. Exposure controls/personal protection

Additional information about engineering measures

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL (=Occupational Exposure Limit), suitable respiratory protection must be worn.

Components with critical values that require monitoring at the workplace (exposure limits)

PROPAN-2-OL ; CAS-No. : 67-63-0

Specification : TRGS 900 - maximum limit in the atmosphere at the workplace (D)
Value : 200 ppm / 500 mg/m³
Category : 2(II)
Remarks : Y
Version date : 01.06.2008

Specification : TRGS 903 - biological maximum limits (D)
Parameter : Acetone / whole blood / end of exposure or shift
Value : 50 mg/l
Version date : 31.03.2004

Specification : TRGS 903 - biological maximum limits (D)
Parameter : Acetone / urine / end of exposure or shift
Value : 50 mg/l

Material Safety Data Sheet

according to Regulation (EC) 1907/2006



Product name : Lascaux Fixative Spray (2070)
Revision : 09.12.2009 **Version :** 7.0.0
Print date : 30.06.2011

Version date : 31.03.2004
PROPANE ; CAS-No. : 74-98-6
Specification : TRGS 900 - maximum limit in the atmosphere at the workplace (D)
Value : 1000 ppm / 1800 mg/m³
Category : 4(II)
Version date : 01.06.2008
BUTANE ; CAS-No. : 106-97-8
Specification : TRGS 900 - maximum limit in the atmosphere at the workplace (D)
Value : 1000 ppm / 2400 mg/m³
Category : 4(II)
Version date : 01.06.2008
XYLENE ; CAS-No. : 1330-20-7
Specification : TRGS 900 - maximum limit in the atmosphere at the workplace (D)
Value : 100 ppm / 440 mg/m³
Category : 2(II)
Remarks : H
Version date : 01.06.2008
Specification : TRGS 903 - biological maximum limits (D)
Parameter : Xylene / whole blood / end of exposure or shift
Value : 1.5 mg/l
Version date : 31.03.2004
Specification : TRGS 903 - biological maximum limits (D)
Parameter : Methylhippuric acid / urine / end of exposure or shift
Value : 2 g/l
Version date : 31.03.2004
Specification : Limit value (Short term) (EC)
Value : 100 ppm / 442 mg/m³
Remarks : H
Version date : 08.06.2000
Specification : Limit value (8 hours) (EC)
Value : 50 ppm / 221 mg/m³
Remarks : H
Version date : 08.06.2000
ETHER DERIVATIVE
Specification : TRGS 900 - maximum limit in the atmosphere at the workplace (D)
Value : 1000 ppm / 3200 mg/m³
Category : 2(II)
Remarks : Y
Version date : 01.06.2008
ETHER
Specification : TRGS 900 - maximum limit in the atmosphere at the workplace (D)
Value : 1000 ppm / 1900 mg/m³
Category : 8(II)
Version date : 01.06.2008
Specification : Limit value (8 hours) (EC)
Value : 1000 ppm / 1920 mg/m³
Version date : 08.06.2000
ESTER DERIVATIVE
Specification : TRGS 900 - maximum limit in the atmosphere at the workplace (D)
Value : 50 ppm / 270 mg/m³
Category : 1(I)
Remarks : Y
Version date : 01.06.2008
Specification : Limit value (Short term) (EC)

Material Safety Data Sheet

according to Regulation (EC) 1907/2006



Product name : Lascaux Fixative Spray (2070)
Revision : 09.12.2009 **Version :** 7.0.0
Print date : 30.06.2011

Value : 100 ppm / 550 mg/m³
Remarks : H
Version date : 08.06.2000
Specification : Limit value (8 hours) (EC)
Value : 50 ppm / 275 mg/m³
Remarks : H
Version date : 08.06.2000

Personal protective equipment

Respiratory protection

If workplace limits are exceeded, a gas mask approved for this purpose must be worn.

Hand protection

Solvent-resistant protective gloves must be worn. For prolonged or repeated handling, use barrier creams to protect the exposed areas of the skin.

Eye protection

Use safety glasses.

Body protection

Personal should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber. All parts of the body should be washed after contact. After skin contact wash thoroughly with soap and water or use recognised skin cleanser. Do Not use solvents or thinners.

09. Physical and chemical properties

Image

Form : Aerosol.
Colour : Colourless.
Odour : Characteristic.

Relevant safety data

Boiling point / range :	(1013 hPa)		not applicable
Flash point :		ca.	-18 °C
Vapour pressure :	(50 °C)	ca.	1000 hPa
Density :	(20 °C)	ca.	0.85 g/cm ³
Viscosity :	(20 °C)		not applicable

10. Stability and reactivity

Conditions to avoid

Stable under recommended storage and handling conditions(See section 7).

Materials to avoid

Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Hazardous decomposition products

When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

11. Toxicological information

Experience on practice

Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory

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Product name : Lascaux Fixative Spray (2070)
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system irritation and adverse effects on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Additional toxicological information

There no data available on the preparation itself. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See Sections 2 and 15 for details.

12. Ecological information

Additional ecological information

General ecological information

There are no data available on the product itself. Do not empty into waters or drains.

13. Disposal considerations

Contaminated packaging must be emptied of all residues and, following appropriate cleaning, may be sent to a recycling plant. Uncleaned packaging must be disposed of in the same manner as the medium.

14. Transport information

Land transport ADR/RID

Classification

Class :	2	Kemlercode :	23
UN number :	1950	Classification-Code :	5F

LQ 2 · E 0 · Tunnel restriction code : D

Proper shipping name

AEROSOLS

Packaging

Label : 2.1

Maritime transport IMDG/GGVSea

Classification

IMDG-Code :	2.1	EmS number :	F-D / S-U
UN number :	1950	Marine Poll. :	-

LQ 1 I · E 0

Proper shipping name

AEROSOLS

Packaging

Label : 2.1

Air transport ICAO-TI and IATA-DGR

Classification

Class :	2.1
UN number :	1950

E 0

Proper shipping name

AEROSOLS, FLAMMABLE

Packaging

Label : 2.1

Material Safety Data Sheet

according to Regulation (EC) 1907/2006



Product name : Lascaux Fixative Spray (2070)
Revision : 09.12.2009 **Version :** 7.0.0
Print date : 30.06.2011

15. Regulatory information

Classification according to EC directives

Danger symbol and danger designation



F+ ; Extremely flammable



Xi ; Irritant

R-phrases

- 12 Extremely flammable.
- 36 Irritating to eyes.
- 67 Vapours may cause drowsiness and dizziness.

S-phrases

- 2 Keep out of the reach of children.
- 51 Use only in well-ventilated areas.
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 23 Do not breath spray.

Special designation for certain preparations

- 56 Pressurized container : protect from sunlight and do not expose to temperatures exceeding 50 °C.
- 57 Do not pierce or burn, even after use.
- 58 Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking. Keep out of the reach of children.

National regulatory information

Emission control act ("TA-Luft")

Sum organic substances class I : < 5 %

Water pollution classification

Class : 2 according VwVwS

International regulatory information

U.S.A. Conforms to ASTM D-4236. "No health labeling required"

16. Other information

Further information

The details in this material safety data sheet satisfy national and EC legislation. We have no knowledge or control over the user's working conditions however. The product may not be used for any purpose other than that specified in chapter 1 unless written consent has been obtained. The user is responsible for the observance of all required statutory provisions.

Relevant changes

08. References to the thresholds · 14. Land transport ADR/RID and GGVS/GGVE · 14.
Classification (ADR) · 14. Classification (IMDG) · 14. Air transport ICAO-TI and IATA-DGR · 14.
Classification (ICAO)

R-Phrases of components

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Product name : Lascaux Fixative Spray (2070)
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10	Flammable.
11	Highly flammable.
12	Extremely flammable.
20/21	Harmful by inhalation and in contact with skin.
36	Irritating to eyes.
36/37/38	Irritating to eyes, respiratory system and skin.
38	Irritating to skin.
67	Vapours may cause drowsiness and dizziness.

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Roberts 3000 M/P Carpet & Sheet Vinyl Adhesive
Roberts MSDS Code # 3000C
PRODUCT USES: For installing a wide variety of floorcovering materials

W.M.I.S. CLASSIFICATION: NON-CONTROLLED

V.O.C. CONTENT: 0 Calculated

SECTION I - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: ROBERTS COMPANY CANADA LTD.
ADDRESS: 2070 Steeles Ave. Bramalea, Ontario L6T 1A7
24 HOUR (CANUTEC) PHONE: (613) 996-6666
DATE REVISED: December 01/06

NAME OF PREPARER: Technical Dept.
INFORMATION PHONE: (905) 791-4444
SOURCES USED: Raw material supplier M.S.D.S.

SECTION II - HAZARDOUS INGREDIENTS INFORMATION

COMPONENT	APPROX. %	UN#	CAS#	LD50	LC50
NO REPORTABLE INGREDIENTS					

SECTION III - PHYSICAL DATA

BOILING POINT: 100° CFREEZING POINT: N/A
VAPOUR DENSITY (AIR=1): Heavier than air
VAPOUR PRESSURE (MM OF MERCURY): N/A
SOLUBILITY IN WATER: Miscible
APPEARANCE AND ODOUR: Beige, soft buttery paste, slight odour.

SPECIFIC GRAVITY (H2O=1): 1.28 pH: 9.2 - 9.8
EVAPORATION RATE (BUTYL ACETATE=1): Slower
EVAPORATION RATE (ETHYL ACETATE=1): Slower
PERCENT VOLATILE: 46
ODOUR THRESHOLD (PPM): Not available

SECTION IV - FIRE AND EXPLOSION DATA

FLASHPOINT (specify method): Over 200°F
FLAMMABLE LIMITS (% BY VOLUME):
FIRE EXTINGUISHING MEDIA: Foam, CO2, Dry Chemical
SPECIAL FIRE-FIGHTING PROCEDURES: Self-contained breathing apparatus should be worn for fires involving this product.
UNUSUAL FIRE AND EXPLOSION HAZARDS: None

METHOD USED: P.M.C.C.
LOWER: N/A UPPER: N/A
AUTO IGNITION TEMP: N/A

IMPACT SENSITIVITY: Insensitive
SENSITIVITY TO STATIC DISCHARGE: Insensitive
TDG FLAMMABILITY CLASSIFICATION: Not regulated.

SECTION V - REACTIVITY DATA

STABILITY: Stable
INCOMPATIBILITY (Materials to avoid): Strong oxidizers and caustics
HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO2, and Hydrocarbons upon combustion.
HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Excessive Heat

CONDITIONS TO AVOID: None

SECTION VI - TOXICOLOGICAL PROPERTIES

ENTRY ROUTE TABLE

SKIN CONTACT	X	SKIN ABSORPTION		EYE CONTACT	X	INHALATION ACUTE	X	INHALATION CHRONIC		INGESTION	X
--------------	---	-----------------	--	-------------	---	------------------	---	--------------------	--	-----------	---

EFFECTS OF ACUTE EXPOSURE TO MATERIAL: Product may irritate eyes and skin. Ingestion causes vomiting, diarrhea, depressed respiration.

EFFECTS OF CHRONIC EXPOSURE TO MATERIAL: Skin chapping.

LD50 (SPECIFY SPECIES & ROUTE): Not available	LC50 (SPECIFY SPECIES): Not available	EXPOSURE LIMIT: N/A	IRRITANCY: Eye and skin.
SENSITIZING CAPACITY: None known	CARCINOGENICITY: None	REPRODUCTIVITY EFFECTS: None known	SYNERGISTIC MATERIALS: None known

SECTION VII - PREVENTATIVE MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): Not required under normal conditions of use.

VENTILATION: General dilution ventilation.

PROTECTIVE GLOVES: Rubber gloves should be worn.

EYE PROTECTION: Goggles / glasses with side shields

OTHER PROTECTIVE EQUIPMENT: None required.

SPILL PROCEDURES: Mechanically collect. Wash area with water. Prevent from entering sewers or waterways. Spilled material may cause slippery conditions. Promptly report significant spills to appropriate authorities. Consult local regulations.

WASTE DISPOSAL METHOD: Destroy by incineration at an approved facility. Dried material only may be landfilled. Consult local regulations.

STORAGE & HANDLING PRECAUTIONS: Store in ventilated area as close to 70°F as possible.

OTHER PRECAUTIONS: Keep containers closed when not in use. Keep out of reach of children.

SECTION VIII - FIRST AID MEASURES

EYES: Flush with water for 20 minutes holding eyelids open. Obtain medical attention immediately.

SKIN: Wash with soap and water. Remove dried adhesive with mineral spirits followed by soap and water. Remove contaminated clothing and launder before re-use. Consult physician if irritation develops.

INGESTION: Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Contact physician immediately.

Material Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME: Roberts 6300 Superior Pressure Sensitive Adhesive
Product Code: R6300

MANUFACTURER : ROBERTS CONSOLIDATED INDUSTRIES, INC.
ADDRESS : 300 CROSS PLAINS BLVD.
DALTON, GA 30721

EMERGENCY PHONE : (800) 424-9300
INFORMATION PHONE : (706) 277-5294

EFFECTIVE DATE: 10/09/2012
Issued by: R. Hess

2. COMPOSITION/INFORMATION ON INGREDIENTS

	<u>CAS Number</u>	<u>Wt%</u>	<u>R Phrases</u>
Water	7732-18-5	40 - 49	
Acrylic Polymer	NA	30 - 35	
Resin Dispersion Blend	NA	8 - 12	
Styrene/Acrylic Polymer	NA	5 - 7	
Humectant	57-13-6	1 - 2	
Non-Hazardous Proprietary Additives:	NA	1 - 3	

3. HAZARDS IDENTIFICATION

Caution! May cause slight eye, skin and respiratory tract irritation. Ingestion may cause gastric disturbances.

This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA.

4. FIRST-AID MEASURES

General Advice:

Remove contaminated clothing.

Inhalation

Move victim to fresh air and keep the person calm. Assist in breathing if necessary. Seek medical attention.

Skin Contact

Wash with soap and water. If irritation develops, seek medical attention.

Eye Contact

Flush with copious amounts of water for at least 15 minutes. If irritation develops, seek medical attention.

Ingestion

Call a physician immediately. Do not induce vomiting without medical advice. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

Medical conditions generally aggravated by exposure: Pre-existing skin disorders.

5. FIRE-FIGHTING MEASURES

Flash Point : NA

Extinguishing Media:

Dry chemical, carbon dioxide, alcohol-resistant foam, water/ water spray.

Hazardous Combustion Products:

Carbon dioxide, carbon monoxide, unknown by-products of incomplete combustion otherwise no particular hazards known.

Protection of Firefighters

No special procedures required. Firefighters should wear full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions - Wear appropriate protective clothing and equipment. Ensure adequate ventilation.

Environmental Precautions - Place dikes around affected areas to block any run off that could go into storm drains, sewer systems, streams or rivers.

This product is not regulated by RCRA. This product is not regulated by CERCLA ('Superfund').

Clean Up - Spills should be contained, solidified, and placed in suitable containers for disposal. Flush area with plenty of water. Wash contaminated property quickly before the material dries. Dispose of waste in accordance with federal, state and local regulations.

7. HANDLING AND STORAGE

Handling: Use only in well ventilated areas. Avoid contact with eyes. Avoid contact with skin. Avoid breathing vapors. When using, do not eat, drink or smoke.

Protection against fire and explosion: No explosion proofing necessary

Storage:

Keep from freezing. Store in a cool, dry location (50° to 90°F) and prevent inoculation with microorganisms. Minimize exposure to air.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls - Local exhaust should be used to maintain good air circulation.

Personal Protective Equipment

- Respiratory Protection
Not required under normal use.
- Skin Protection
Rubber or Chemical resistant protective gloves (butyl rubber, nitrile rubber, pvc or polyvinyl alcohol).
- Eye/Face Protection
Safety goggles (chemical goggles).
- General Safety and hygiene measures:
Wear protective clothing as necessary to prevent contact. Avoid inhalation of vapors/mists. Wash soiled clothing immediately.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Paste

Color: Off White
Odor: Very mild acrylic/resinous odor.
Specific Gravity: 1.03
Vapor Density: Same as water
Freezing Point: approx. 32°F
V.O.C.: 9.7 g/l
VOC by Weight: 0.5%
SOLUBILITY IN WATER: miscible

10. STABILITY AND REACTIVITY

Chemical Stability: Stable
Conditions to Avoid: Excessive heat.
Materials to Avoid: Strong Oxidizers.
Hazardous Polymerization: ☐ may occur ☒ will not occur

11. TOXICOLOGICAL INFORMATION

Acute toxicity

- Ingestion: ND
- Skin Contact: ND
- Inhalation: ND

12. ECOLOGICAL INFORMATION

Environmental Mobility and Bioaccumulation Potential: ND

Acute and Prolonged Aquatic Toxicity: ND

13. DISPOSAL CONSIDERATIONS

Disposal

Incinerate or bury dried material in landfill in accordance with federal, state and local regulations.
For wet material dispose of in licensed facility in accordance with federal, state, and local regulations.

Note: Not hazardous as defined by OSHA 29CFR 1910.1200.

Wastes or Residues

Same as above.

Package Disposal:

Dispose of in licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. TRANSPORT INFORMATION

Road:

D.O.T. PROPER SHIPPING NAME (49CFR172.101 - 102): ADHESIVE.

D.O.T. HAZARD CLASSIFICATION (49CFR172.101-102):
PRIMARY: NONE SECONDARY: NONE

D.O.T. LABELS REQUIRED (49CFR172.101-102): NONE

D.O.T. PLACKARDS REQUIRED (49CFR172.504): NONE

BILL OF LADING DESCRIPTION: ADHESIVE, NOS UN/NA CODE: N/A

Sea:

Proper shipping name: **Non-Regulated**

Sea – IMO/IMDG Class: N/A UN Nr: N/A Label: N/A
Packing Group: N/A
Marine Pollutant: N/A EMS: N/A

Air

Proper shipping name: **Non-Regulated**

Air – ICAO/IATA Class: N/A UN Nr: N/A Label : N/A
Sub Class: N/A
Packing Group: N/A Pack Instr. Passenger: N/A
Pack Instr. Cargo: N/A

Remarks: No dangerous goods in the meaning of USDOT, IMDG, IATA/IMO.

15. REGULATORY INFORMATION

Federal Regulations:

HCS Classification Not regulated

SARA 311/312 Classification: Not regulated

SARA 313 - Supplier Notification

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372:

None required.

SARA 302 Extremely Hazardous Substances None required.

State regulations Massachusetts RTK Substances: None required.
New Jersey RTK Hazardous Substances: None required.
Pennsylvania RTK Hazardous Substances: None required.

Canada

WHMIS (Canada) Not controlled under WHMIS (Canada).
Canadian lists Canadian NPRI: None required.

16. OTHER INFORMATION

Hazardous Material Information System III (U.S.A.)

Health: 1

Flammability: 0

Physical hazards: 0

Chronic:

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Prepared by Roberts Product Safety & Regulatory Compliance Group, (706) 277-5294.

Date of issue: 010/09/2012.

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY EXPRESSED OR IMPLIED IS MADE. ROBERTS URGES USERS OF THIS PRODUCT TO EVALUATE ITS SUITABILITY AND COMPLIANCE WITH LOCAL REGULATIONS AS ROBERTS CANNOT FORESEE THE FINAL USE OF THE PRODUCT, NOR THE FINAL LOCATION OF USAGE.



Safety Data Sheet

James Austin Company

Austin's A-1 Bleach

SDS Number: 10

Revision Date: 5/28/2015

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PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

James Austin Company
115 Downieville Road
PO Box 827
Mars, PA 16046

Phone: 724-625-1535
Fax: 724-625-3288
Web: www.jamesaustin.com

Product Name: Austin's A-1 Bleach
Revision Date: 5/28/2015
Version: 1
SDS Number: 10
Common Name: Sodium Hypochlorite
CAS Number: 7681-52-9
Product Code: 54200-00039
EPA Number: 1672-20004
RCRA Number: D002 (For pH greater than 12.50)
Chemical Formula: NaOCl
Synonyms: Bleach, Liquid Bleach, Soda Bleach
Internal ID: 90000360, 9000361, 90041000

Emergency phone number: CHEMTREC
US: 1-800-424-9300 Canada: 1-800-567-7455

Poison Control Center: 1-800-222-1222

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HAZARDS IDENTIFICATION

GHS Signal Word:
WARNING

GHS Hazard Pictograms:



GHS Classifications:
Health, Skin corrosion/irritation, 3
Health, Specific target organ toxicity - Single exposure, 3
Environmental, Hazards to the aquatic environment - Acute, 1
Environmental, Hazards to the aquatic environment - Chronic, 4
Health, Serious Eye Damage/Eye Irritation, 2 B

GHS Phrases:
H316 - Causes mild skin irritation



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H335 - May cause respiratory irritation
H400 - Very toxic to aquatic life
H413 - May cause long lasting harmful effects to aquatic life
H320 - Causes eye irritation

GHS Precautionary Statements:

P220 - Keep/Store away from clothing/combustible materials.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P264 - Wash exposed skin thoroughly after handling.
P262 - Do not get in eyes, on skin, or on clothing.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P273 - Avoid release to the environment.
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do.

Continue rinsing.

P309+311 - IF exposed or you feel unwell: Call a POISON CENTER or doctor/physician.

P401 - Store upright in a cool, dry place.

P501 - Dispose of contents/container to an approved waste disposal plant.

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COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas #	Percentage	Chemical Name
7681-52-9	5.25-5.40%	Sodium hypochlorite
7732-18-5	94.60-94.75%	Water

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FIRST AID MEASURES

Inhalation: In the event of exposure to excessive vapor levels, move the individual to fresh air and seek medical attention if symptoms develop or persist.

Skin Contact: Immediately rinse with plenty of water while removing any contaminated clothing. If irritation develops or persists, seek medical attention. Wash contaminated clothing before reuse.

Eye Contact: Rinse immediately with plenty of water. Keep eye(s) wide open while rinsing. Avoid rubbing the affected area. Seek medical attention if needed.

Ingestion: Do NOT induce vomiting. Rinse mouth thoroughly with water. Drink plenty of water. Call a physician or poison control center.

NOTE TO PHYSICIAN:

Probable mucosal damage may contraindicate the use of gastric lavage.



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5 FIRE FIGHTING MEASURES

Flammability: Not flammable
Flash Point: No information available
Flash Point Method: No information available
Burning Rate: No information available
Autoignition Temp: No information available
LEL: No information available
UEL: No information available

Highly exothermic reactions with organic materials and oxidizable materials may cause fires.

In the event of a fire, wear full protective clothing and MSHA/NIOSH self-contained breathing apparatus with a full facepiece operated in the pressure-demand or other positive pressure mode.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment; Water spray may be used to keep fire exposed containers cool.

6 ACCIDENTAL RELEASE MEASURES

Use personal protective equipment as required/recommended. Evacuate public to a safe area. Avoid contact with skin, eyes, and clothing.

Prevent spills from entering sewers or waterways. Contain run-off using diking composed of a suitable material. Soak up liquid on inert absorbant and transfer to an approved container. Clean contaminated surface thoroughly.

7 HANDLING AND STORAGE

Handling Precautions: Use personal protective equipment as required/recommended. Use only with adequate ventilation. Avoid contact with skin, eyes, and clothing. Use suitable respiratory equipment in case of inadequate ventilation.

Storage Requirements: Store using properly labeled containers in a cool, dry, well ventilated area. Keep out of reach of children. Separate from incompatible materials.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use adequate ventilation, especially in confined spaces
Personal Protective Equip: Chemical splash goggles; Face shield; Neoprene gloves; NIOSH approved respirator; Apron.



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9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear yellow	Odor:	Pungent; Chlorine
Physical State:	Liquid	Solubility:	Completely miscible in water
Spec Grav./Density:	1.070 - 1.080		
pH:	12-13		

10 STABILITY AND REACTIVITY

Stability:	The product is stable and non-reactive under normal conditions of use, storage and transport.
Conditions to Avoid:	Contact with incompatible materials. Excessive heat and exposure to light. Reacts violently with strong acids producing chlorine gas. Contact with amines will result in chloramines.
Materials to Avoid:	Strong oxidizing agents, acids, metals, organic compounds, ammonia. Oxidizable or combustible materials.
Hazardous Decomposition:	None under normal processing.
Hazardous Polymerization:	Will not occur.

11 TOXICOLOGICAL INFORMATION

Toxicity Data:

Eye Effects: Causes eye burns.
Skin Effects: Causes skin burns.
Acute Inhalation Effects: Vapors and mist may irritate throat and respiratory system; may cause coughing.
Chronic Effects: Prolonged or repeated overexposure may cause lung damage.
Carcinogenicity: Not a known carcinogen.
Mutagenicity: Not Known.
Teratogenicity: Not Known.

Acute Toxicity:

Oral (LD 50): No data available

Inhalation (LC 50): No data available

Skin irritation: Causes severe skin burns and eye damage

Eye irritation: Causes serious eye damage

Sensitization: No data available

Chronic Toxicity: IARC Group 3; Not classifiable as a human carcinogen



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ECOLOGICAL INFORMATION

This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a national pollutant discharge elimination system (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your state water board or regional office of the EPA.

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DISPOSAL CONSIDERATIONS

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the EPA Regional Office for guidance.

Do not re-use or refill this container. Triple rinse container promptly after emptying.

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TRANSPORT INFORMATION

DOT: Not regulated. Classified as non-hazardous.

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REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

*Sodium hypochlorite (7681529 5.25-5.40%) CERCLA, CSWHS, MASS, PA, TSCA

*Water (7732185 94.60-94.75%) TSCA

REGULATORY KEY DESCRIPTIONS

CERCLA = Superfund clean up substance
CSWHS = Clean water Act Hazardous substances
MASS = MA Massachusetts Hazardous Substances List
PA = PA Right-To-Know List of Hazardous Substances
TSCA = Toxic Substances Control Act

OSHA = OSHA workplace Air Contaminants
TXAIR = TX Air Contaminants with Health Effects Screening Level

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Precautionary Statements
Hazards to Humans and Domestic Animals

DANGER

CORROSIVE. May cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Do not get in eyes, on skin or clothing.



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Wear safety glasses or goggles and rubber gloves when handling product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.

Environmental Hazards: This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a national pollutant discharge elimination system (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your state water board or regional office of the EPA.

Physical or Chemical Hazards: Strong oxidizing agent. Mix only with water according to label instructions. Never mix this product with other chemicals such as toilet bowl cleaners, acids, detergents, organic matter or products containing ammonia or vinegar. To do so will release a chlorine gas, which is irritating to eyes, lungs, and mucous membranes, and in some cases can be fatal.

Additional Cautions: Do not use on copper, aluminum, iron, silverware, antique porcelain, or other metal objects.

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OTHER INFORMATION

Author: James Austin Company

Publication Date: 12/11/2014

Revision Note: MSDS converted to GHS SDS format

Disclaimer: James Austin Company provides this information without warranty. The information is believed to be accurate, but James Austin Company makes no representations as to its accuracy. The information should be used to make an independent determination and therefore, users are responsible to verify this data under their own operating conditions and methods. This information relates only to the product designated herein, and does not relate to its use in combination with other materials or processes.

MATERIAL SAFETY DATA SHEET



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: A2 STUDENTS ACRYLIC

Other Names: -

Recommended Use: Students Impasto acrylic paint

Supplier: CHROMA AUSTRALIA PTY LTD

ABN: 55 757 480 623

Street Address: 17 MUNDOWI RD
MT KURING-GAI NSW 2080,
Australia

Telephone Number: 02 94579922

Facsimile: 02 94578082

Emergency Telephone: 02 94579922 or contact the Poisons Information Centre in your area.

2. HAZARDS IDENTIFICATION

Based on the available information, classified as **NON-HAZARDOUS** according to criteria of NOHSC.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Numbers	Proportion
Acrylic emulsion	non hazardous	Commercial in confidence
Preservative	149-30-4/2634-33-5	<0.1%
Alkaline stabiliser	124-68-24	<1%
Ammonia	7664-41-7	<1%
Pigment,varied ----	NA	Commercial in confidence
Thickeners	Na	<20%
Water	7732-18-5	<10%

4. FIRST AID MEASURES

Inhalation: Remove victim from area of exposure. Allow patient to assume a comfortable position. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin Contact: If skin contact occurs, remove contaminated clothing and wash skin with running water. If irritation occurs seek medical advice.

Eye Contact: If in contact with eyes flush thoroughly. In all cases of eye contamination it is sensible precaution to seek medical advice.

MATERIAL SAFETY DATA SHEET



Ingestion: Rinse mouth with water. If swallowed give a glass of water to drink. Seek medical advice.

Medical Attention And special Treatment: Treat symptomatically. This product carries the A.P. non-toxic seal and is Certified by a toxicologist in association with the Art & Craft Materials Institute (ACMI), BOSTON MA 02110. USA

5. FIRE FIGHTING MEASURES

Hazards from combustion Products: Not combustible

Precautions for fire fighters and special protective equipment: If risk of exposure to vapour or products of combustion, fire fighters to wear self contained breathing apparatus and protective clothing.

Suitable Extinguishing Media: Not combustible, however, if material involved in fire use: Water fog (or if unavailable fine water spray), foam, dry agent (dry chemical powder or carbon dioxide).

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures: If contamination of sewers or waterways has occurred advise local emergency services.

Methods and materials for Containment and clean up: **Small Spills** – avoid accidents clean up immediately.
Large Spills – Clean up immediately. Contain and prevent run off into drains and waterways. Use absorbent material such as soil sand or other inert material. Collect and seal in properly labeled containers or drums for disposal. Dispose of according to local EPA and/or Council Regulations.

7. HANDLING AND STORAGE

Conditions for safe storage: Store in a cool place and out of direct sunlight.

Precautions for safe handling: Keep out of reach of children. Avoid eye contact and repeated or prolonged skin contact.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits: No value assigned for this specific material.

Engineering controls: Provide adequate ventilation. Keep containers closed when not in use.

Personal Protective Equipment: For general use PPE is not required. However a detailed risk assessment on the use taking in to account the work environment and handling methods may indicate PPE is required. If there is a risk of eye contact or repeated or

prolonged skin contact the use of safety glasses and gloves is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Thick Paste
Colour:	Varied
Odour:	Slight ammonia smell
Solubility:	Soluble in water
Specific Gravity:	Approx 1 g/ml
Relative Vapour Density (air =1):	Not available
Vapour Pressure(20°C):	Not available
Flash Point (0°C):	Not applicable
Flammability Limits(%):	Not applicable
Autoignition Temperature (0°C):	Not applicable
% Volatility by Weight:	Not available
Solubility in Water (g/L):	Soluble
Melting Point/range (0°C):	Not applicable
Boiling Point/Range (0°C):	Not applicable
Decomposition Point (0°C):	Not available
Viscosity:	Not available
Evaporation Rate:	Not available

10. STABILITY AND REACTIVITY

Chemical stability:	Stable under normal conditions of use.
Conditions to avoid:	Avoid contact with food stuffs.
Incompatible materials:	None noted.
Hazardous Decomposition Products:	None noted.
Hazardous reactions:	None known.

11. TOXICOLOGICAL INFORMATION

No adverse health effects are expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms of effects may occur if the product is mishandled and over exposure occurs.

Ingestion:	No adverse effects expected.
Eye Contact:	Direct contact may cause slight irritation.
Skin Contact:	Prolonged or repeated contact may cause slight irritation.
Inhalation:	Inhalation of the vapour may cause irritation.
Long Term Effects:	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

Disposal methods: **For small quantities:** Do not pour leftover paint in drains. Unwanted paint should be brushed onto newspaper allowed to dry and disposed of via domestic waste collection. Soak up smaller spills with a rag allow to dry and dispose of via domestic waste collection.

For large quantities: Clean up immediately. Contain and prevent run off into drains and waterways. Use absorbent material such as soil sand or other inert material. Collect and seal in properly labeled containers or drums for disposal. Dispose of according to local EPA and/or Council Regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport:

Not classified as a Dangerous Goods by the criteria of the ADG Code for transport by road and rail.
NON DANGEROUS GOODS.

Marine Transport:

Not classified as Dangerous Goods by the criteria of the IMDG Code for transport by sea.
NON DANGEROUS GOODS.

Air Transport:

Not classified as Dangerous Goods by the criteria of the IATA Dangerous Goods Regulations for transport by air. NON DANGEROUS GOODS.

15. REGULATORY INFORMATION

Classification: Based on available information, not classified as hazardous according to the criteria of NOHSC. **NON-HAZARDOUS SUBSTANCE.**

Poisons Schedule: None allocated.

16. OTHER INFORMATION

This MSDS summarises to the best available knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely use and handle the material in the workplace. Since CHROMA AUSTRALIA PTY LTD cannot anticipate or control conditions of use, each user prior to using the product should assess and control the risks arising from the usage of the product.

Date of Issue: 11th March 2008

MATERIAL SAFETY DATA SHEET



AC-20® +Silicone

PART I

What is the material and what do I need to know in an emergency?

1. PRODUCT IDENTIFICATION

<u>TRADE NAME (AS LABELED):</u>	AC-20® +Silicone
<u>PRODUCT DESCRIPTION:</u>	Acrylic Latex Sealant
<u>CHEMICAL NAME/CLASS:</u>	Acrylic Latex
<u>SYNONYMS:</u>	AC-20; AC-20 Acrylic Latex Plus Silicone
<u>SUPPLIER/MANUFACTURER'S NAME:</u>	Pecora Corporation
<u>ADDRESS:</u>	165 Wambold Road, Harleysville, PA 19438
<u>EMERGENCY PHONE:</u>	800-424-9300 (CHEMTREC, 24-hours)
<u>BUSINESS PHONE:</u>	215-723-6051 (Mon–Fri, 8 AM–5 PM ET)
<u>EFFECTIVE DATE:</u>	June 2, 2009

This product is sold for commercial use. This MSDS has been developed to address safety concerns of those individuals working with bulk quantities of this material, as well as those of potential users of this product in industrial/occupational settings. ALL United States Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, and Canadian WHMIS [Controlled Products Regulations] required information is included in appropriate sections based on the U.S. ANSI Z400.1-2004 format. This product has been classified in accordance with the hazard criteria of the countries listed above.

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL DESCRIPTION: This product is a smooth paste with an acrylic odor that comes in a variety of colors.

WARNINGS (per ANSI Z129.1): CAUTION! MAY CAUSE EYE, SKIN, AND RESPIRATORY TRACT IRRITATION, ESPECIALLY IF EXPOSURE IS PROLONGED.

PRECAUTIONS (per ANSI Z129.1): Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Wash thoroughly after handling. Keep container tightly closed. Use only with adequate ventilation. Keep away from heat and flame.

HAZARD SYMBOLS:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS®)

Health	1	See Section 16 for definitions of ratings 0 = Minimal 3 = Serious 1 = Slight 4 = Severe 2 = Moderate * = Chronic
Flammability	1	
Physical Hazard	0	

HMIS® is a registered trademark of the National Paint and Coatings Association.

CANADIAN WHMIS SYMBOLS: Not applicable.

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

2. HAZARDS IDENTIFICATION (Continued)

OSHA REGULATORY STATUS

This material is not classified as hazardous under OSHA regulations.

POTENTIAL ENVIRONMENTAL EFFECTS

This product should not normally present a significant hazard to aquatic or terrestrial life in small quantities. Do not discharge effluent containing this product into streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. See Section 12: ECOLOGICAL INFORMATION.

3. MATERIAL IDENTIFICATION

CHEMICAL NAME	CAS #	Weight %
Calcium Carbonate	1317-65-3	40.0–70.0
Acrylic Polymer	Proprietary	10.0–30.0
Butyl Benzyl Phthalate	85-68-7	7.0–13.0
Carbon Black (in formulation 012)	1333-86-4	1.0–5.0
Propylene Glycol	57-55-6	1.0–5.0
Titanium Dioxide (in formulations 789, E65, 880, 365, 224)	13463-67-7	1.0–5.0
Titanium Dioxide (in formulations 345, J50, H89, 545, 560, 575, 730, 360, 550, D49, 039, 520, D99, 304, 325, 480, 660, 306, 515, 712, 792, 525, 630, 302)	13463-67-7	0.1–1.0
Water and other components. Each of the other components is present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).	The remaining components do not contribute any significant additional hazards.	Balance

PART II *What should I do if a hazardous situation occurs?*

4. FIRST-AID MEASURES

Victims of chemical exposure must be taken for medical attention if any adverse effects occur. Take a copy of label and MSDS to physician or health professional with victim.

FIRST AID PROCEDURES

SKIN EXPOSURE: If this product contaminates the skin, remove material, wash with soap, and rinse with running water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek immediate medical attention if any adverse symptoms develop.

EYE EXPOSURE: If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 20 minutes. Victim must seek immediate medical attention if any adverse symptoms develop.

INHALATION: If vapors, mists, or sprays of this product are inhaled, remove victim to fresh air. Victim must seek immediate medical attention if any adverse exposure symptoms develop. If necessary, use artificial respiration to support vital functions.

INGESTION: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directed by medical personnel. Have victim rinse mouth with water if conscious. Never induce vomiting or give a diluent (e.g., water) to someone who is unconscious, having convulsions, or unable to swallow. If individual is convulsing, maintain an open airway and obtain immediate medical attention.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Dermatitis or other pre-existing skin disorders may be aggravated by overexposures to this product.

NOTE TO PHYSICIANS

Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

FLAMMABLE PROPERTIES

This product is not readily combustible; it must be substantially heated for ignition to become a hazard. Use extinguishing material suitable to the surrounding fire. Not sensitive to mechanical impact under normal conditions. Not sensitive to static discharge under normal conditions.

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA:

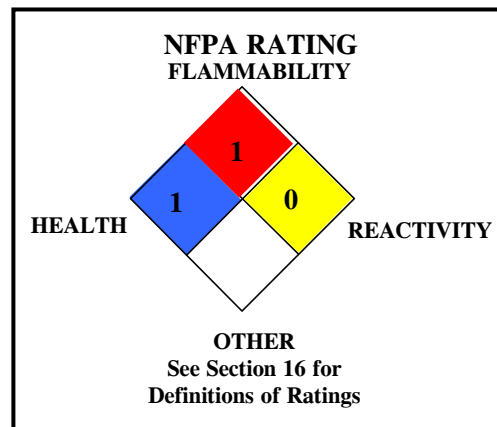
<u>Water Spray:</u>	OK	<u>Carbon Dioxide:</u>	OK
<u>Foam:</u>	OK	<u>Dry Chemical:</u>	OK
<u>Halon:</u>	OK	<u>Other</u>	Any "ABC" Class

UNSUITABLE EXTINGUISHING MEDIA: None.

PROTECTION OF FIREFIGHTERS

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: None.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.



6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Responders should wear the level of protection appropriate to the type of chemical released, the amount of the material spilled, and the location where the incident has occurred. For releases of 1 drum or less, Level D Protective Equipment (gloves, chemical resistant apron, boots, and eye protection) should be worn.

ENVIRONMENTAL PRECAUTIONS

Minimize use of water to prevent environmental contamination. Prevent spill or rinsate from contaminating storm drains, sewers, soil or groundwater. Place all spill residues in a suitable container and seal. Dispose of in accordance with applicable Federal, State, or local procedures (see Section 13: DISPOSAL CONSIDERATIONS).

METHODS FOR CONTAINMENT

SPILL AND LEAK RESPONSE: Trained personnel using pre-planned procedures should respond to uncontrolled releases. Proper protective equipment should be used. In case of a spill, clear the affected area and protect people.

RESPONSE TO INCIDENTAL RELEASES: Personnel who have received basic chemical safety training can generally handle small-scale releases, such as 1 container of this product. Respond to incidental chemical releases by wearing gloves, eye protection, and appropriate body protection.

RESPONSE TO NON-INCIDENTAL RELEASES: Respond to non-incident chemical releases of this product, such as the simultaneous puncturing of several drums, by clearing the impacted area and contacting appropriate emergency personnel. Cleanup should only be done by qualified personnel.

METHODS FOR CLEANUP

Wipe up or scrape up spilled product. Remove any residue carefully following appropriate safety precautions or allow residue to cure and scrape off. Decontaminate the area thoroughly. Place in suitable containers for proper disposal.

OTHER INFORMATION

U.S. regulations may require reporting of spills of this material that reach surface waters if a sheen is formed. If necessary, the toll-free phone number for the US Coast Guard National Response Center is 1-800-424-8802.

PART III

How can I prevent hazardous situations from occurring?

7. HANDLING and STORAGE

HANDLING

As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Use only with adequate ventilation. Keep away from heat and flame. In the event of a spill, follow practices indicated in Section 6: ACCIDENTAL RELEASE MEASURES.

STORAGE

This product is stable under ordinary conditions of handling, use and storage. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10: STABILITY AND REACTIVITY). Keep container tightly closed when not in use. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. To prolong shelf life, store at temperatures below 80°F (26°C).

PRODUCT USE

This product is used as a sealant. Follow all industry standards for use of this product.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE GUIDELINES

<u>Chemical Name</u>	<u>CAS #</u>	<u>Guideline</u>	<u>Value</u>
Calcium Carbonate	1317-65-3	OSHA PEL TWA NIOSH REL TWA	15 mg/m ³ total dust 5 mg/m ³ respirable fraction 10 mg/m ³ total dust 5 mg/m ³ respirable fraction
Acrylic Polymer	Proprietary	NE	NE
Butyl Benzyl Phthalate	85-68-7	NE	NE
Carbon Black	1333-86-4	ACGIH TLV TWA OSHA PEL TWA NIOSH REL TWA	3.5 mg/m ³ 3.5 mg/m ³ 3.5 mg/m ³ (0.1 in the presence of PAHs, as PAHs: 10-hr TWA)
Propylene Glycol	57-55-6	AIHA WEEL TWA	10 mg/m ³
Titanium Dioxide	13463-67-7	ACGIH TLV TWA OSHA PEL TWA NIOSH REL DFG MAK TWA	10 mg/m ³ 15 mg/m ³ total dust Lowest feasible concentration (LOQ 0.2 mg/m ³) 1.5 mg/m ³ respirable fraction Pregnancy Risk Group C

NE = Not Established. See Section 16 for Definitions of Terms Used.

ENGINEERING CONTROLS

Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

EYE/FACE PROTECTION: Use approved safety goggles or safety glasses. If necessary, refer to U.S. OSHA 29 CFR 1910.133 or Canadian CSA Standard Z94.3-07.

SKIN PROTECTION: Wear chemical impervious gloves (e.g., Nitrile or Neoprene). Use triple gloves for spill response. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or the appropriate standards of Canada.

BODY PROTECTION: Use body protection appropriate for task (e.g., lab coat, coveralls, Tyvek suit). If necessary, refer to the OSHA Technical Manual (Section VII: Personal Protective Equipment) or appropriate Standards of Canada. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136 and the Canadian CSA Standard Z195-02, *Protective Footwear*.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

RESPIRATORY PROTECTION: If mists or sprays from this product are created during use, use appropriate respiratory protection. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, or Canadian CSA Standard Z94.4-02. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under U.S. Federal OSHA's Respiratory Protection Standard (1910.134-1998) or the regulations of various U.S. States or Canada.

GENERAL HYGIENE CONSIDERATIONS

Contact with uncured sealant or with vapors generated during curing MAY CAUSE RESPIRATORY TRACT IRRITATION. Avoid breathing fumes, dusts, vapors or mist. Keep container closed when not in use. Use only with adequate ventilation or wear an appropriate NIOSH-approved respirator. MAY CAUSE SKIN AND EYE IRRITATION. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Do not taste or swallow.

9. PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

<u>RELATIVE VAPOR DENSITY (air = 1):</u>	Heavier than air	<u>EVAPORATION RATE (BuAc =1):</u>	Not established
<u>SPECIFIC GRAVITY:</u>	1.56	<u>MELTING/FREEZING POINT:</u>	< 32°F (< 0°C)
<u>SOLUBILITY IN WATER:</u>	Soluble	<u>BOILING POINT:</u>	Not established
<u>VAPOR PRESSURE, mm Hg @ 20°C:</u>	Not established	<u>pH:</u>	7.5–8.0
<u>COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT)</u>			Not established
<u>PHYSICAL STATE, APPEARANCE AND COLOR</u>		This product is a smooth paste with an acrylic odor that comes in a variety of colors.	

HOW TO DETECT THIS SUBSTANCE (WARNING PROPERTIES)

The appearance and odor of this product can act as warning properties in the event of an accidental release

CHEMICAL PROPERTIES

<u>ODOR THRESHOLD:</u>	Not established		
<u>VOC (less water and exempt):</u>	< 31 g/L		
<u>WEIGHT % VOC:</u>	< 2.0%		
<u>FLASH POINT:</u>	> 200°F (> 93°C)	<u>AUTOIGNITION TEMPERATURE:</u>	Not established
<u>FLAMMABLE LIMITS (in air by volume, %):</u>			
<u>Lower:</u>	Not established	<u>Upper:</u>	Not established

10. STABILITY and REACTIVITY

CHEMICAL STABILITY

Stable under normal circumstances of use and handling. Product cures upon contact with air.

CONDITIONS TO AVOID

Avoid contact with incompatible chemicals and exposure to extreme temperatures.

INCOMPATIBLE MATERIALS

This product is not compatible with strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition of this product can generate dusts, irritating fumes, and toxic gases (e.g., carbon oxides, titanium compounds).

POSSIBILITY OF HAZARDOUS REACTIONS

This product is not expected to undergo hazardous polymerization, decomposition, condensation, or self-reactivity. Product slowly cures upon contact with air.

PART IV *Is there any other useful information about this material?*

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

The most significant routes of occupational overexposure are inhalation and contact with skin and eyes. The symptoms of overexposure to this product are as follows:

CONTACT WITH SKIN or EYES: Contact may mildly irritate the skin and cause redness and discomfort. Prolonged or repeated skin contact may cause dermatitis (dry, red skin). Eye contact may cause redness, pain, and tearing.

SKIN ABSORPTION: The components of this product are not known to be absorbed through intact skin.

INGESTION: If the product is swallowed, it may mildly irritate the mouth, throat, and other tissues of the gastro-intestinal system and may cause nausea, vomiting, and diarrhea.

INHALATION: Overexposure to vapors of this product generated during curing, or dusts of this product generated during use after curing may mildly irritate the respiratory tract and cause coughing and sneezing.

INJECTION: Accidental injection of this product (e.g. puncture with a contaminated object) may cause burning, redness, and swelling in addition to the wound.

TARGET ORGANS: Skin, eyes.

CHRONIC EFFECTS: Prolonged or repeated skin contact may cause dermatitis (dry, red skin).

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Mild eye and skin irritation (redness). See Section 11: TOXICOLOGICAL INFORMATION for more information on specific components of this product.

TOXICITY DATA

There are currently no toxicity data available for this product; the following toxicology information is available for components greater than 1% in concentration.

The following data are available for Calcium Carbonate:

Skin Irritancy (rabbit) = 500 mg/24 hours; moderate
Eye Irritancy (rabbit) = 750 µg/24 hours; severe

LD₅₀ (oral, rat) = 6450 mg/kg

The following data are available for Acrylic Polymer:

Patch test on human volunteers did not demonstrate sensitization properties.

The following data are available for Butyl Benzyl Phthalate:

LD₅₀ (Oral-Rat) 2330 mg/kg
LD₅₀ (Oral-Mouse) 4170 mg/kg
LD₅₀ (Skin-Rat) 6700 mg/kg
LD₅₀ (Skin-Mouse) 6700 mg/kg

LD₅₀ (Skin-Rabbit) > 10 g/kg
LD₅₀ (Intraperitoneal-Mouse) 3160 mg/kg

The following data are available for Carbon Black:

Mutation in microorganisms (*Salmonella typhimurium*, bacteria) = 1 mg/plate
DNA adduct (inhalation, mouse) = 6200 µg/m³/16 hours/12 weeks/intermittent

The following data are available for Propylene Glycol:

Skin Irritancy (human) = 500 mg/7 days; mild
Skin Irritancy (human) = 104 mg/3 days/intermittent; moderate
Skin Irritancy (man) = 10%/2 days
TDLo (oral, child) = 79 g/kg/56 weeks/intermittent; Central nervous system effects, BRN
TDLo (parenteral, infant) = 10 g/kg/3 days/continuous; Systemic effects
Eye Irritancy (rabbit) = 100 mg; mild
Eye Irritancy (rabbit) = 500 mg/24 hours; mild

LD₅₀ (oral, rat) = 20 g/kg
LD₅₀ (oral, mouse) = 22 g/kg
LD₅₀ (skin, rabbit) = 20800 mg/kg
DNA Inhibition (subcutaneous, mouse) = 8000 mg/kg
Cytogenetic Analysis (subcutaneous, mouse) = 8000 mg/kg
Cytogenetic Analysis (fibroblast, hamster) = 32 g/L

The following data are available for Titanium Dioxide:

Standard Draize Test (skin, human) = 300 mg/3 days/intermittent; Mild irritation effects
Micronucleus Test (intraperitoneal, mouse) = 3 g/kg/3 days/continuous

DNA Inhibition (lung, hamster) = 500 mg/L

11. TOXICOLOGICAL INFORMATION (Continued)

SUSPECTED CANCER AGENT

The following table summarizes the carcinogenicity listing for the components of this product. "NO" indicates that the substance is not considered to be or suspected to be a carcinogen by the listed agency, see section 16 for definitions of other ratings.

CHEMICAL	IARC	NTP	NIOSH	ACGIH	OSHA	PROP 65
Calcium Carbonate	No	No	No	No	No	No
Butyl Benzyl Phthalate	No	No	No	No	No	No
Carbon Black	2B	No	Ca	TLV-A4	No	Yes (airborne, unbound particles of respirable size)
Propylene Glycol	No	No	No	No	No	No
Titanium Dioxide	2B	No	Ca	TLV-A4	No	No

IARC Group 2B: Possibly carcinogenic to humans. NIOSH-Ca: Potential occupational carcinogen, with no further categorization. ACGIH TLV-A4: Not Classifiable as a Human Carcinogen.

IRRITANCY OF PRODUCT

This product may mildly irritate contaminated tissue, especially if contact is prolonged.

SENSITIZATION TO THE PRODUCT

The components of this product are not known to be human skin or respiratory sensitizers.

TOXICOLOGICAL SYNERGISTIC PRODUCTS

None.

REPRODUCTIVE TOXICITY INFORMATION

Listed below is information concerning the effects of this product and its components on the human reproductive system.

MUTAGENICITY: The components of this product are not reported to produce mutagenic effects in humans. Animal or microorganism data for components are as follows: Titanium dioxide was not mutagenic to *Salmonella typhimurium* TA1535, TA1537, TA1538, TA97, TA98 or TA100 or to *Escherichia coli* WP2, either in the presence or absence of an exogenous metabolic system from the livers of uninduced and Aroclor-induced rats, mice and Syrian hamsters. Negative results for Butyl Benzyl Phthalate have been obtained in tests using cultured mammalian cells, bacteria and fruit flies. Positive results for Carbon Black have been obtained in somatic cells following live animal inhalation exposures. Propylene glycol (32 mg/mL) caused chromosome damage in a mammalian cell line.

EMBRYOTOXICITY: The components of this product are not reported to produce embryotoxic effects in humans. Animal or microorganism data for components are as follows: A significant increase in embryo-lethality was noted in pregnant rats given Butyl Benzyl Phthalate by gavage at 500 mg/kg and above regardless of the days of treatment. Propylene Glycol caused a high mortality of the embryos when injected into the air sac on the fourth day of development and unilateral micromelia in about 20% of the survivors.

TERATOGENICITY: The components of this product are not reported nor expected to produce teratogenic effects in humans. Animal or microorganism data for components are as follows: While administration of Butyl Benzyl Phthalate to rats by gastric intubation on days 7 to 9 or 13 to 15 at 375 mg/kg and above was significantly teratogenic, no evidence of teratogenicity was detected when Butyl Benzyl Phthalate was given on days 10 to 12. Propylene glycol was not teratogenic when injected into the yolk sac of chick embryos.

REPRODUCTIVE TOXICITY: The components of this product are not reported to produce reproductive toxicity in humans.

A *mutagen* is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An *embryotoxin* is a chemical that causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A *teratogen* is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A *reproductive toxin* is any substance that interferes in any way with the reproductive process.

BIOLOGICAL EXPOSURES INDICES (BEIs)

There are no BEI's established for any component of this product at this time.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ECOTOXICITY

This product has not been tested for Ecotoxicity. This product may be harmful to terrestrial plant and animal life if large volumes of it are released into the environment. This product may be harmful to animal life if large volumes of it are released into an aquatic environment.

PERSISTENCE/DEGRADABILITY

This product has not been tested for persistence or biodegradability. It is expected that after curing, this product will persist in the environment indefinitely.

BIOACCUMULATION/ACCUMULATION

There is no accumulation data for any component of this product at this time.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL

As supplied, this product would not be a hazardous waste as defined by U.S. federal regulation (40 CFR 261) if discarded or disposed. State and local regulations may differ from federal regulations. The generator of the waste is responsible for proper waste determination and management.

U.S. EPA WASTE NUMBER

Not applicable.

14. TRANSPORTATION INFORMATION

BASIC SHIPPING DESCRIPTION

This product is not hazardous per 49 CFR 172.101, the U.S. Department of Transportation or Transport Canada Transportation of Dangerous Goods Regulations or International Air Transport Association (IATA) Regulations or International Maritime Organization Regulations (IMO) or International Civil Aviation Organization (ICAO) .

<u>PROPER SHIPPING NAME:</u>	Not Regulated
<u>HAZARD CLASS NUMBER and DESCRIPTION:</u>	Not Regulated
<u>UN IDENTIFICATION NUMBER:</u>	Not Regulated
<u>DOT LABEL(S) REQUIRED:</u>	Not Regulated
<u>PACKAGING GROUP:</u>	Not Regulated
<u>NORTH AMERICAN RESPONSE GUIDEBOOK NUMBER (2008):</u>	Not Regulated
<u>MARINE POLLUTANT:</u>	No component is designated as a DOT Marine Pollutant.

15. REGULATORY INFORMATION

ADDITIONAL U.S. REGULATIONS - EPA REPORTING REQUIREMENTS

The following reporting requirements are applicable to components of this product:

<u>CHEMICAL</u>	<u>SECTION 302 EHS (TPQ)</u> (40 CFR 355, Appendix A)	<u>SECTION 304 RQ</u> (40 CFR Table 302.4)	<u>SECTION 313 TRI (threshold)</u> (40 CFR 372.65)
Calcium Carbonate	No	No	No
Butyl Benzyl Phthalate	No	No	No
Carbon Black	No	No	No
Propylene Glycol	No	No	No
Titanium Dioxide	No	No	No

U.S. SARA SECTION 311/312 FOR PRODUCT:

Not applicable.

15. REGULATORY INFORMATION (Continued)

U.S. TSCA INVENTORY STATUS:

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

OTHER U.S. FEDERAL REGULATIONS:

Not applicable.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

Carbon Black (airborne, unbound particles of respirable size) is found on the Proposition 65 List of chemicals known to the state to cause cancer. Due to the form of the product, the Proposition 65 warning is not applicable to the Carbon Black in this product.

Butyl Benzyl Phthalate is found on the Proposition 65 List of chemicals known to the state to cause developmental harm.

WARNING: This product contains chemicals known to the State of California to cause developmental harm.

GLOBAL HARMONIZATION SYSTEM WARNINGS

RISK PHRASES: Not applicable.

SAFETY PHRASES: Not applicable.

SYMBOLS: Not applicable.

ADDITIONAL REGULATIONS

CANADIAN DSL/NDL INVENTORY STATUS:

The components of this product listed by CAS# in Section 3 (MATERIAL IDENTIFICATION) are listed on the DSL or NDSL Inventories.

MEXICAN WORKPLACE REGULATIONS (NOM-018-STPS-2000):

This product is not considered dangerous.

16. OTHER INFORMATION

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information presented in this Material Safety Data Sheet is presented in good faith based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. **HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE.** In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sale.

All materials may present hazards and should be used with caution. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices or applicable federal, state, or local laws or regulations. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

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DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these, which are commonly used, include the following:

KEY ACRONYMS:

CHEMTREC: Chemical Transportation Emergency Center, a 24-hour emergency information and/or emergency assistance to emergency responders.

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DFG MAKs: Federal Republic of Germany Maximum Concentration Values in the workplace. Exposure limits are given as TWA (Time-Weighted Average) or PEAK (short-term exposure) values.

DFG MAK Germ Cell Mutagen Categories: **1:** Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed humans. **2:** Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed mammals. **3A:** Substances that have been shown to induce genetic damage in germ cells of human or animals, or which produce mutagenic effects in somatic cells of mammals *in vivo* and have been shown to reach the germ cells in an active form. **3B:** Substances that are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell *in vivo*; in exceptional cases, substances for which there are no *in vivo* data, but that are clearly mutagenic in vitro and structurally related to known *in vivo* mutagens. **4:** Not applicable (Category 4 carcinogenic substances are those with non-genotoxic mechanisms of action. By definition, germ cell mutagens are genotoxic. Therefore, a Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g. purely aneugenic substances] if research results make this seem sensible.) **5:** Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

DFG MAK Pregnancy Risk Group Classification: **Group A:** A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. **Group B:** Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. **Group C:** There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. **Group D:** Classification in one of the groups A–C is not yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation.

IDLH: Immediately Dangerous to Life and Health. This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.

LOQ: Limit of Quantitation.

NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change.

NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH's Recommended Exposure Limits.

PEL: OSHA's Permissible Exposure Limits. This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL" is placed next to the PEL that was vacated by Court Order.

SKIN: Used when there is a danger of cutaneous absorption.

KEY ACRONYMS (continued):

STEL: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr TWA is within the TLV-TWA, PEL-TWA or REL-TWA.

TLV: Threshold Limit Value. An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.

TWA: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.

WEEL: Workplace Environmental Exposure Limits from the AIHA.

HAZARD RATINGS:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS:

This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: 0 Minimal Hazard: No significant health risk, irritation of skin or eyes not anticipated. *Skin Irritation:* Essentially non-irritating. Mechanical irritation may occur. *PII or Draize = 0.* *Eye Irritation:* Essentially non-irritating, minimal effects clearing in < 24 hours. Mechanical irritation may occur. *Draize = 0.* *Oral Toxicity LD₅₀ Rat: > 5000 mg/kg.* *Dermal Toxicity LD₅₀ Rat or Rabbit: > 2000 mg/kg.* *Inhalation Toxicity 4-hrs LC₅₀ Rat: > 20 mg/L.* **1 Slight Hazard:** Minor reversible injury may occur; may irritate the stomach if swallowed; may defat the skin and exacerbate existing dermatitis. *Skin Irritation:* Slightly or mildly irritating. *PII or Draize > 0 < 5.* *Eye Irritation:* Slightly to mildly irritating, but reversible within 7 days. *Draize > 0 ≤ 25.* *Oral Toxicity LD₅₀ Rat: > 500–5000 mg/kg.* *Dermal Toxicity LD₅₀ Rat or Rabbit: > 1000–2000 mg/kg.* *Inhalation Toxicity LC₅₀ 4-hrs Rat: > 2–20 mg/L.* **2 Moderate Hazard:** Temporary or transitory injury may occur; prolonged exposure may affect the CNS. *Skin Irritation:* Moderately irritating; primary irritant; sensitizer. *PII or Draize ≥ 5*, with no destruction of dermal tissue. *Eye Irritation:* Moderately to severely irritating; reversible corneal opacity; corneal involvement or irritation clearing in 8–21 days. *Draize = 26–100*, with reversible effects. *Oral Toxicity LD₅₀ Rat: > 50–500 mg/kg.* *Dermal Toxicity LD₅₀ Rat or Rabbit: > 200–1000 mg/kg.* *Inhalation Toxicity LC₅₀ 4-hrs Rat: > 0.5–2 mg/L.* **3 Serious Hazard:** Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. *Skin Irritation:* Severely irritating and/or corrosive; may cause destruction of dermal tissue, skin burns, and dermal necrosis. *PII or Draize > 5–8*, with destruction of tissue. *Eye Irritation:* Corrosive, irreversible destruction of ocular tissue; corneal involvement or irritation persisting for more than 21 days. *Draize > 80* with effects irreversible in 21 days. *Oral Toxicity LD₅₀ Rat: > 1–50 mg/kg.* *Dermal Toxicity LD₅₀ Rat or Rabbit: > 20–200 mg/kg.* *Inhalation Toxicity LC₅₀ 4-hrs Rat: > 0.05–0.5 mg/L.*

HAZARD RATINGS (continued):

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

HEALTH HAZARD (continued): **4 Severe Hazard:** Life-threatening; major or permanent damage may result from single or repeated exposures; extremely toxic; irreversible injury may result from brief contact. *Skin Irritation:* Not appropriate. Do not rate as a 4, based on skin irritation alone. *Eye Irritation:* Not appropriate. Do not rate as a 4, based on eye irritation alone. *Oral Toxicity LD₅₀ Rat: ≤ 1 mg/kg.* *Dermal Toxicity LD₅₀ Rat or Rabbit: ≤ 20 mg/kg.* *Inhalation Toxicity LC₅₀ 4-hrs Rat: ≤ 0.05 mg/L.*

FLAMMABILITY HAZARD: 0 Minimal Hazard: Materials that will not burn in air when exposure to a temperature of 815.5°C (1500°F) for a period of 5 minutes. **1 Slight Hazard:** Materials that must be pre-heated before ignition can occur. Material requires considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur. This usually includes the following: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or above 93.3°C (200°F) (i.e. OSHA Class IIIB); and Most ordinary combustible materials (e.g. wood, paper, etc.). **2 Moderate Hazard:** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres with air. This usually includes the following: Liquids having a flash-point at or above 37.8°C (100°F); Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres; Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp); and Solids and semisolids (e.g. viscous and slow flowing as asphalt) that readily give off flammable vapors. **3 Serious Hazard:** Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures, or, unaffected by ambient temperature, are readily ignited under almost all conditions. This usually includes the following: Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 38°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. OSHA Class IB and IC); Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air (e.g., dusts of combustible solids, mists or droplets of flammable liquids); and Materials that burn extremely rapidly, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). **4 Severe Hazard:** Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and that will burn readily. This usually includes the following: Flammable gases; Flammable cryogenic materials; Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. OSHA Class IA); and Materials that ignite spontaneously when exposed to air at a temperature of 54.4°C (130°F) or below (pyrophoric).

PHYSICAL HAZARD: 0 Water Reactivity: Materials that do not react with water. *Organic Peroxides:* Materials that are normally stable, even under fire conditions and will not react with water. *Explosives:* Substances that are Non-Explosive. *Compressed Gases:* No Rating. *Pyrophorics:* No Rating. *Oxidizers:* No 0 rating. *Unstable Reactives:* Substances that will not polymerize, decompose, condense, or self-react.). **1 Water Reactivity:** Materials that change or decompose upon exposure to moisture. *Organic Peroxides:* Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently. *Explosives:* Division 1.5 & 1.6 explosives. Substances that are very insensitive explosives or that do not have a mass explosion hazard. *Compressed Gases:* Pressure below OSHA definition. *Pyrophorics:* No Rating. *Oxidizers:* Packaging Group III oxidizers; Solids: any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 3:7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. *Unstable Reactives:* Substances that may decompose condense, or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation or explosion hazard. Substances that readily undergo hazardous polymerization in the absence of inhibitors. **2 Water Reactivity:** Materials that may react violently with water. *Organic Peroxides:* Materials that, in themselves, are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water. *Explosives:* Division 1.4 explosives. Explosive substances where the explosive effects are largely confined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package. *Compressed Gases:* Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics:* No Rating. *Oxidizers:* Packing Group II oxidizers. Solids: any material that, either in concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of a 2:3 potassium bromate/cellulose mixture and the criteria for Packing Group I are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chlorate solution (40%)/cellulose mixture and the criteria for Packing Group I are not met. *Reactives:* Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure, but have a low potential (or low risk) for significant heat generation or explosion. Substances that readily form peroxides upon exposure to air or oxygen at room temperature. **3 Water Reactivity:** Materials that may form explosive reactions with water. *Organic Peroxides:* Materials that are capable of detonation or explosive reaction, but require a strong initiating source or must be heated under confinement before initiation; or materials that react explosively with water. *Explosives:* Division 1.3 explosives. Explosive substances that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but do not have a mass explosion hazard. *Compressed Gases:* Pressure ≥ 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics:* No Rating. *Oxidizers:* Packing Group I oxidizers. Solids: any material that, in either concentration tested, exhibits a mean burning time less than the mean burning time of a 3:2 potassium bromate/cellulose mixture. Liquids: any material that spontaneously ignites when mixed with cellulose in a 1:1 ratio, or which exhibits a mean pressure rise time less than the pressure rise time of a 1:1 perchloric acid (50%)/cellulose mixture. *Unstable Reactives:* Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a moderate potential (or moderate risk) to cause significant heat generation or explosion.

DEFINITIONS OF TERMS (Continued)

HAZARD RATINGS (continued):

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

PHYSICAL HAZARD (continued): **4 Water Reactivity:** Materials that react explosively with water without requiring heat or confinement. **Organic Peroxides:** Materials that are readily capable of detonation or explosive decomposition at normal temperature and pressures. **Explosives:** Division 1.1 & 1.2 explosives. Explosive substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. **Compressed Gases:** No Rating. **Pyrophorics:** Add to the definition of Flammability 4. **Oxidizers:** No 4 rating. **Unstable Reactives:** Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion. **Pyrophorics:** Add to the definition of Flammability 4. **Oxidizers:** No 4 rating. **Unstable Reactives:** Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion.

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS

HEALTH HAZARD: 0 Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. Gases and vapors with an LC₅₀ for acute inhalation toxicity greater than 10,000 ppm. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 200 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 2000 mg/kg. Materials with an LD₅₀ for acute oral toxicity greater than 2000 mg/kg. Materials essentially non-irritating to the respiratory tract, eyes, and skin. **1** Materials that, under emergency conditions, can cause significant irritation. Gases and vapors with an LC₅₀ for acute inhalation toxicity greater than 5,000 ppm but less than or equal to 10,000 ppm. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 10 mg/L but less than or equal to 200 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 1000 mg/kg but less than or equal to 2000 mg/kg. Materials that slightly to moderately irritate the respiratory tract, eyes and skin. Materials with an LD₅₀ for acute oral toxicity greater than 500 mg/kg but less than or equal to 2000 mg/kg. **2** Materials that, under emergency conditions, can cause temporary incapacitation or residual injury. Gases with an LC₅₀ for acute inhalation toxicity greater than 3,000 ppm but less than or equal to 5,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC₅₀ for acute inhalation toxicity, if its LC₅₀ is less than or equal to 5000 ppm and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 2 mg/L but less than or equal to 10 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 200 mg/kg but less than or equal to 1000 mg/kg. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause severe tissue damage, depending on duration of exposure. Materials that are respiratory irritants. Materials that cause severe, but reversible irritation to the eyes or are lachrymators. Materials that are primary skin irritants or sensitizers. Materials whose LD₅₀ for acute oral toxicity is greater than 50 mg/kg but less than or equal to 500 mg/kg. **3** Materials that, under emergency conditions, can cause serious or permanent injury. Gases with an LC₅₀ for acute inhalation toxicity greater than 1,000 ppm but less than or equal to 3,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater its LC₅₀ for acute inhalation toxicity, if its LC₅₀ is less than or equal to 3000 ppm and that does not meet the criteria for degree of hazard 4. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 0.5 mg/L but less than or equal to 2 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 40 mg/kg but less than or equal to 200 mg/kg. Materials that are corrosive to the respiratory tract. Materials that are corrosive to the eyes or cause irreversible corneal opacity. Materials corrosive to the skin. Cryogenic gases that cause frostbite and irreversible tissue damage. Compressed liquefied gases with boiling points below -55°C (-66.5°F) that cause frostbite and irreversible tissue damage. Materials with an LD₅₀ for acute oral toxicity greater than 5 mg/kg but less than or equal to 50 mg/kg. **4** Materials that, under emergency conditions, can be lethal. Gases with an LC₅₀ for acute inhalation toxicity less than or equal to 1,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than ten times its LC₅₀ for acute inhalation toxicity, if its LC₅₀ is less than or equal to 1000 ppm. Dusts and mists whose LC₅₀ for acute inhalation toxicity is less than or equal to 0.5 mg/L. Materials whose LD₅₀ for acute dermal toxicity is less than or equal to 40 mg/kg. Materials whose LD₅₀ for acute oral toxicity is less than or equal to 5 mg/kg.

FLAMMABILITY HAZARD: 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in according with Annex D of NFPA 704. **1** Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Materials that will burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in according with Annex D of NFPA 704. Liquids, solids, and semisolids having a flash point at or above 93.4°C (200°F) (i.e. Class IIIB liquids). Liquids with a flash point greater than 35°C (95°F) that do not sustain combustion when tested using the *Method of Testing for Sustained Combustibility*, per 49 CFR 173, Appendix H or the UN *Recommendations on the Transport of Dangerous Goods, Model Regulations* (current edition) and the related *Manual of Tests and Criteria* (current edition). Liquids with a flash point greater than 35°C (95°F) in a water-miscible solution or dispersion with a water non-combustible liquid/solid content of more than 85% by weight. Liquids that have no fire point when tested by ASTM D 92, *Standard Test Method for Flash and Fire Points by Cleveland Open Cup*, up to the boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change. Combustible pellets with a representative diameter of greater than 2 mm (10 mesh). Most ordinary combustible materials. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **2** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air. Liquids having a flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.) Solid materials in the form of powders or coarse dusts of representative diameter between 420 microns (40 mesh) and 2 mm (10 mesh) that burn rapidly but that generally do not form explosive mixtures with air. Solid materials in fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal, and hemp. Solids and semisolids that readily give off flammable vapors. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS (continued):

FLAMMABILITY HAZARD (continued): 3 Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 37.8°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. Class IB and IC liquids). Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air. Flammable or combustible dusts with representative diameter less than 420 microns (40 mesh). Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **4** Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily. Flammable gases. Flammable cryogenic materials. Any liquid or gaseous materials that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. Class IA liquids). Materials that ignite when exposed to air. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

INSTABILITY HAZARD: 0 Materials that in themselves are normally stable, even under fire conditions. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) below 0.01 W/mL. Materials that do not exhibit an exotherm at temperatures less than or equal to 500°C (932°F) when tested by differential scanning calorimetry. **1** Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 0.01 W/mL and below 10 W/mL. **2** Materials that readily undergo violent chemical change at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 100 W/mL. **3** Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL and below 1000 W/mL. Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures. **4** Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. Materials that are sensitive to localized thermal or mechanical shock at normal temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) of 1000 W/mL or greater.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA). **Flash Point:** Minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with air near the surface of the liquid or within the test vessel used. **Autoignition Temperature:** Minimum temperature of a solid, liquid, or gas required to initiate or cause self-sustained combustion in air with no other source of ignition. **LEL:** Lowest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame. **UEL:** Highest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. **LD₅₀:** Lethal Dose (solids & liquids) that kills 50% of the exposed animals. **LC₅₀:** Lethal Concentration (gases) that kills 50% of the exposed animals. **ppm:** Concentration expressed in parts of material per million parts of air or water. **mg/m³:** Concentration expressed in weight of substance per volume of air. **mg/kg:** Quantity of material, by weight, administered to a test subject, based on their body weight in kg. **TDLo:** Lowest dose to cause a symptom. **TCLo:** Lowest concentration to cause a symptom. **TD₀, LDLo, and LD₀, or TC, TCo, LCLo, and LCo:** Lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** **IARC:** International Agency for Research on Cancer. **NTP:** National Toxicology Program. **RTECS:** Registry of Toxic Effects of Chemical Substances. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. **Other Information:** **BEI:** ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

ECOLOGICAL INFORMATION:

EC: Effect concentration in water. **BCF:** Bioconcentration Factor, which is used to determine if a substance will concentrate in life forms that consume contaminated plant or animal matter. **TLm:** Median threshold limit. **log K_{ow}** or **log K_{oc}:** Coefficient of Oil/Water Distribution is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION: This section explains the impact of various laws and regulations on the material.

U.S.:

EPA: U.S. Environmental Protection Agency. **ACGIH:** American Conference of Governmental Industrial Hygienists, a professional association that establishes exposure limits. **OSHA:** U.S. Occupational Safety and Health Administration. **NIOSH:** National Institute of Occupational Safety and Health, which is the research arm of OSHA. **DOT:** U.S. Department of Transportation. **TC:** Transport Canada. **SARA:** Superfund Amendments and Reauthorization Act. **TSCA:** U.S. Toxic Substance Control Act. **CERCLA:** Comprehensive Environmental Response, Compensation, and Liability Act. Marine Pollutant status according to the DOT; CERCLA or Superfund; and various state regulations. This section also includes information on the precautionary warnings that appear on the material's package label.

CANADA:

WHMIS: Canadian Workplace Hazardous Materials Information System. **TC:** Transport Canada. **DSL/NDSL:** Canadian Domestic/Non-Domestic Substances List.

MATERIAL SAFETY DATA SHEET

1010123
02 00

DATE OF PREPARATION
May 19, 2014

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

1010123

PRODUCT NAME

ACE® RUST STOP Enamel Safety Colors, Safety Red

MANUFACTURER'S NAME

Mfd. for:

ACE HARDWARE CORPORATION

Oak Brook, IL 60521

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
<i>*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)</i>	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
14	74-98-6	Propane		
		ACGIH TLV	1000 PPM	760 mm
		OSHA PEL	1000 PPM	
13	106-97-8	Butane		
		ACGIH TLV	1000 PPM	760 mm
		OSHA PEL	800 PPM	
13	64742-89-8	Lt. Aliphatic Hydrocarbon Solvent		
		ACGIH TLV	100 PPM	53 mm
		OSHA PEL	100 PPM	
2	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
9	1330-20-7	Xylene		
		ACGIH TLV	100 PPM	5.9 mm
		ACGIH TLV	150 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	150 PPM STEL	
25	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
8	123-86-4	n-Butyl Acetate		
		ACGIH TLV	150 PPM	10 mm
		ACGIH TLV	200 PPM STEL	
		OSHA PEL	150 PPM	
		OSHA PEL	200 PPM STEL	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the hematopoietic (blood-forming) system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.

Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT

Propellant < 0 °F

LEL

1.0

UEL

12.8

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.17 lb/gal	739 g/l
SPECIFIC GRAVITY	0.74	
BOILING POINT	<0 - 292 °F	<-18 - 144 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	89%	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
pH	7.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
	Volatile Weight 58.56%	Less Water and Federally Exempt Solvents

SECTION 10 — STABILITY AND REACTIVITY**STABILITY — Stable****CONDITIONS TO AVOID**

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION**CHRONIC HEALTH HAZARDS**

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	Propane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
106-97-8	Butane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
64742-89-8	Lt. Aliphatic Hydrocarbon Solvent	LC50 RAT LD50 RAT	4HR	Not Available Not Available
100-41-4	Ethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available 3500 mg/kg
1330-20-7	Xylene	LC50 RAT LD50 RAT	4HR	5000 ppm 4300 mg/kg
67-64-1	Acetone	LC50 RAT LD50 RAT	4HR	Not Available 5800 mg/kg
123-86-4	n-Butyl Acetate	LC50 RAT LD50 RAT	4HR	2000 ppm 13100 mg/kg

SECTION 12 — ECOLOGICAL INFORMATION**ECOTOXICOLOGICAL INFORMATION**

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U

IATA/ICAO

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	2	
1330-20-7	Xylene	9	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

SAFETY DATA SHEET

17014

Section 1. Identification

Product name : ACE® Interior/Exterior Acethane Polyurethane
Clear Satin

Product code : 17014

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against
Not applicable.

Manufacturer : Mfd. for:
ACE HARDWARE COPORATION
Oak Brook, IL 60521

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : Not available.

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 23.7%

GHS label elements

Hazard pictograms



Signal word

: Danger

Section 2. Hazards identification

Hazard statements	: Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes serious eye irritation. Causes skin irritation. Suspected of damaging the unborn child. Suspected of causing cancer. May be fatal if swallowed and enters airways. May cause respiratory irritation. May cause drowsiness and dizziness. May cause damage to organs through prolonged or repeated exposure.
<u>Precautionary statements</u>	
General	: Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Pressurized container: Do not pierce or burn, even after use. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling.
Response	: Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Storage	: Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.
Hazards not otherwise classified	: None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	36.0	67-64-1
Propane	12.2	74-98-6
Toluene	12.0	108-88-3
Butane	11.8	106-97-8
Methyl Ethyl Ketone	8.0	78-93-3
Xylene	6.5	1330-20-7
Ethylbenzene	1.2	100-41-4

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.
- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetone	ACGIH TLV (United States, 4/2014). TWA: 500 ppm 8 hours. TWA: 1188 mg/m ³ 8 hours. STEL: 750 ppm 15 minutes. STEL: 1782 mg/m ³ 15 minutes. NIOSH REL (United States, 10/2013). TWA: 250 ppm 10 hours. TWA: 590 mg/m ³ 10 hours. OSHA PEL (United States, 2/2013). TWA: 1000 ppm 8 hours. TWA: 2400 mg/m ³ 8 hours.
Propane	NIOSH REL (United States, 10/2013). TWA: 1000 ppm 10 hours. TWA: 1800 mg/m ³ 10 hours. OSHA PEL (United States, 2/2013). TWA: 1000 ppm 8 hours. TWA: 1800 mg/m ³ 8 hours.
Toluene	OSHA PEL Z2 (United States, 2/2013). TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. NIOSH REL (United States, 10/2013). TWA: 100 ppm 10 hours. TWA: 375 mg/m ³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m ³ 15 minutes. ACGIH TLV (United States, 4/2014). TWA: 20 ppm 8 hours.
Butane	NIOSH REL (United States, 10/2013). TWA: 800 ppm 10 hours. TWA: 1900 mg/m ³ 10 hours. ACGIH TLV (United States, 4/2014). STEL: 1000 ppm 15 minutes.
Methyl Ethyl Ketone	ACGIH TLV (United States, 4/2014). TWA: 200 ppm 8 hours. TWA: 590 mg/m ³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m ³ 15 minutes. NIOSH REL (United States, 10/2013). TWA: 200 ppm 10 hours. TWA: 590 mg/m ³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m ³ 15 minutes. OSHA PEL (United States, 2/2013). TWA: 200 ppm 8 hours. TWA: 590 mg/m ³ 8 hours.
Xylene	ACGIH TLV (United States, 4/2014). TWA: 100 ppm 8 hours. TWA: 434 mg/m ³ 8 hours.

Section 8. Exposure controls/personal protection

Ethylbenzene

STEL: 150 ppm 15 minutes.
 STEL: 651 mg/m³ 15 minutes.
OSHA PEL (United States, 2/2013).
 TWA: 100 ppm 8 hours.
 TWA: 435 mg/m³ 8 hours.
ACGIH TLV (United States, 4/2014).
 TWA: 20 ppm 8 hours.
NIOSH REL (United States, 10/2013).
 TWA: 100 ppm 10 hours.
 TWA: 435 mg/m³ 10 hours.
 STEL: 125 ppm 15 minutes.
 STEL: 545 mg/m³ 15 minutes.
OSHA PEL (United States, 2/2013).
 TWA: 100 ppm 8 hours.
 TWA: 435 mg/m³ 8 hours.

Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection

- : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

- : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection

- : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

- : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	: Liquid.
Color	: Not available.
Odor	: Not available.
Odor threshold	: Not available.
pH	: 7
Melting point	: Not available.
Boiling point	: Not available.
Flash point	: Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]
Evaporation rate	: 5.6 (butyl acetate = 1)
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Lower: 1% Upper: 12.8%
Vapor pressure	: 13.5 kPa (101.325 mm Hg) [at 20°C]
Vapor density	: 1.55 [Air = 1]
Relative density	: 0.74
Solubility	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Kinematic (room temperature): <0.205 cm ² /s (<20.5 cSt) Kinematic (40°C (104°F)): <0.205 cm ² /s (<20.5 cSt)

Aerosol product

Type of aerosol	: Spray
Heat of combustion	: 0.00002854 kJ/g

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame).
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m ³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m ³	4 hours
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-

Sensitization

Section 11. Toxicological information

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Xylene	-	3	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Toluene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Toluene	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Section 11. Toxicological information

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Toluene	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

- General** : May cause damage to organs through prolonged or repeated exposure.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : Suspected of damaging the unborn child.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	3217.9 mg/kg
Inhalation (gases)	58516 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Toluene	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
Methyl Ethyl Ketone	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
Xylene	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
Ethylbenzene	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours

Section 12. Ecological information

	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
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Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Toluene	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
Xylene	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Toluene	-	90	low
Xylene	-	8.1 to 25.9	low

Mobility in soil






Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

Date of issue/Date of revision : 5/1/2015. Date of previous issue : No previous validation. Version : 1 13/15

Section 14. Transport information

Additional information	Special provisions LIMITED QUANTITY	Special provisions LIMITED QUANTITY	Special provisions (ERG#126)	Special provisions LIMITED QUANTITY	Emergency schedules (EmS) LIMITED QUANTITY, F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

State regulations

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		3
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Section 16. Other information

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

MATERIAL SAFETY DATA SHEET

17071
02 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

17071

PRODUCT NAME

ACE® RUST STOP Indoor/Outdoor Enamel, Satin Flat White

MANUFACTURER'S NAME

Mfd. for:

ACE HARDWARE CORPORATION

Oak Brook, IL 60521

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
<i>*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)</i>	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
14	74-98-6	Propane		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
13	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
19	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
1.0	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
6	1330-20-7	Xylene		
		ACGIH TLV	100 PPM	5.9 mm
		ACGIH TLV	150 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	150 PPM STEL	
23	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
1	14807-96-6	Talc		
		ACGIH TLV	2 mg/m3 as Resp. Dust	
		OSHA PEL	2 mg/m3 as Resp. Dust	
2	471-34-1	Calcium Carbonate		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	15 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	
10	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.

Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES**FLASH POINT**

Propellant < 0 °F

LEL

0.9

UEL

12.8

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m³ (total dust), 3 mg/m³ (respirable fraction), OSHA PEL 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.56 lb/gal	786 g/l
SPECIFIC GRAVITY	0.79	
BOILING POINT	<0 - 325 °F	<-18 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	89%	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	7.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
	Volatile Weight 52.84%	Less Water and Federally Exempt Solvents

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	Propane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
106-97-8	Butane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
64742-89-8	V. M. & P. Naphtha	LC50 RAT LD50 RAT	4HR	Not Available Not Available
100-41-4	Ethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available 3500 mg/kg
1330-20-7	Xylene	LC50 RAT LD50 RAT	4HR	5000 ppm 4300 mg/kg
67-64-1	Acetone	LC50 RAT LD50 RAT	4HR	Not Available 5800 mg/kg
14807-96-6	Talc	LC50 RAT LD50 RAT	4HR	Not Available Not Available
471-34-1	Calcium Carbonate	LC50 RAT LD50 RAT	4HR	Not Available Not Available
13463-67-7	Titanium Dioxide	LC50 RAT LD50 RAT	4HR	Not Available Not Available

SECTION 12 — ECOLOGICAL INFORMATION**ECOTOXICOLOGICAL INFORMATION**

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U, ADR (D)

IATA/ICAO

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	0.9	
1330-20-7	Xylene	6	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

17076
02 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

17076

PRODUCT NAME

ACE® RUST STOP Indoor/Outdoor Enamel, Medium Gray

MANUFACTURER'S NAME

Mfd. for:

ACE HARDWARE CORPORATION

Oak Brook, IL 60521

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300

*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
14	74-98-6	Propane		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
13	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
21	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
1	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
8	1330-20-7	Xylene		
		ACGIH TLV	100 PPM	5.9 mm
		ACGIH TLV	150 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	150 PPM STEL	
23	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
6	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	
0.2	1333-86-4	Carbon Black		
		ACGIH TLV	3.5 MG/M3	
		OSHA PEL	3.5 MG/M3	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

HMIS Codes

Health	2*
Flammability	4
Reactivity	0

EFFECTS OF OVEREXPOSURE**EYES:** Irritation.**SKIN:** Prolonged or repeated exposure may cause irritation.**INHALATION:** Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES**EYES:** Flush eyes with large amounts of water for 15 minutes. Get medical attention.**SKIN:** Wash affected area thoroughly with soap and water.

Remove contaminated clothing and laundry before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.**INGESTION:** Do not induce vomiting. Get medical attention immediately.**SECTION 5 — FIRE FIGHTING MEASURES****FLASH POINT**

Propellant < 0 °F

LEL

0.9

UEL

12.8

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m³ (total dust), 3 mg/m³ (respirable fraction), OSHA PEL 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.28 lb/gal	752 g/l
SPECIFIC GRAVITY	0.76	
BOILING POINT	<0 - 325 °F	<-18 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	90%	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	7.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
	Volatile Weight 58.08%	Less Water and Federally Exempt Solvents

SECTION 10 — STABILITY AND REACTIVITY**STABILITY — Stable****CONDITIONS TO AVOID**

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION**CHRONIC HEALTH HAZARDS**

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

Carbon Black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is insufficient evidence in humans for its carcinogenicity.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	Propane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
106-97-8	Butane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
64742-89-8	V. M. & P. Naphtha	LC50 RAT LD50 RAT	4HR	Not Available Not Available
100-41-4	Ethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available 3500 mg/kg
1330-20-7	Xylene	LC50 RAT LD50 RAT	4HR	5000 ppm 4300 mg/kg
67-64-1	Acetone	LC50 RAT LD50 RAT	4HR	Not Available 5800 mg/kg
13463-67-7	Titanium Dioxide	LC50 RAT LD50 RAT	4HR	Not Available Not Available
1333-86-4	Carbon Black	LC50 RAT LD50 RAT	4HR	Not Available Not Available

SECTION 12 — ECOLOGICAL INFORMATION**ECOTOXICOLOGICAL INFORMATION**

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U, ADR (D)

IATA/ICAO

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	1	
1330-20-7	Xylene	8	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

17082
02 00

DATE OF PREPARATION
Apr 28, 2011

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

17082

PRODUCT NAME

ACE® RUST STOP Primer, Gray Primer

MANUFACTURER'S NAME

Mfd. for:

ACE HARDWARE CORPORATION

Oak Brook, IL 60521

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300

*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
14	74-98-6	Propane		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
13	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
18	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
8	67-56-1	Methanol		
		ACGIH TLV	200 ppm (Skin)	92 mm
		ACGIH TLV	250 ppm (Skin) STEL	
		OSHA PEL	200 ppm (Skin)	
		OSHA PEL	250 ppm (Skin) STEL	
20	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
7	14807-96-6	Talc		
		ACGIH TLV	2 mg/m3 as Resp. Dust	
		OSHA PEL	2 mg/m3 as Resp. Dust	
5	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

HMIS Codes

Health	3*
Flammability	3
Reactivity	0

Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the cardiovascular system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.

Remove contaminated clothing and laundry before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT

Propellant < 0 °F

LEL

1.0

UEL

36.5

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m³ (total dust), 3 mg/m³ (respirable fraction), OSHA PEL 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits.

Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.79 lb/gal	813 g/l
SPECIFIC GRAVITY	0.82	
BOILING POINT	<0 - 238 °F	<-18 - 114 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	89%	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	7.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
	Volatile Weight 55.48%	Less Water and Federally Exempt Solvents

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable**CONDITIONS TO AVOID**

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	Propane	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
106-97-8	Butane	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
108-88-3	Toluene	LC50 RAT	4HR	4000 ppm
		LD50 RAT		5000 mg/kg
67-56-1	Methanol	LC50 RAT	4HR	64000 ppm
		LD50 RAT		5630 mg/kg
67-64-1	Acetone	LC50 RAT	4HR	Not Available
		LD50 RAT		5800 mg/kg
14807-96-6	Talc	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
13463-67-7	Titanium Dioxide	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

May be classed as Consumer Commodity, ORM-D

UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as Consumer Commodity, ORM-D

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U, ADR (D)

IATA/ICAO

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

SECTION 15 — REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	18	
67-56-1	Methanol	8	
	Zinc Compound	3	1.3

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MSDS # 3.20

Acetic Acid Solution, 1.0M**Section 1: Product and Company Identification****Acetic Acid Solution, 1.0M****Synonyms/General Names:** Acetic acid, Ethanoic acid.**Product Use:** For educational use only.**Manufacturer:** Columbus Chemical Industries, Inc., Columbus, WI 53925.**24 Hour Emergency Information Telephone Numbers****CHEMTREC (USA): 800-424-9300****CANUTEC (Canada): 613-424-6666**

Scholar Chemistry; 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.Scholarchemistry.com

Section 2: Hazards Identification*Clear, colorless solution with a strong vinegar odor.***HMIS (0 to 4)**

Health	2
Fire Hazard	0
Reactivity	0

WARNING! Body tissue irritant and moderately toxic by ingestion.

Target organs: Respiratory system, eyes, skin, teeth.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 3: Composition / Information on Ingredients

Acetic Acid (64-19-7), 6%.

Water (7732-18-5), 94%.

Section 4: First Aid Measures*Always seek professional medical attention after first aid measures are provided.***Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.**Ingestion:** Call Poison Control immediately. *Do not induce vomiting.* Rinse mouth with cold water. Give victim 1-2 cups of water or milk to drink.**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration.**Section 5: Fire Fighting Measures**

When heated to decomposition, emits acrid fumes of carbon oxides.

Protective equipment and precautions for firefighters: Use foam or dry chemical to extinguish fire.

Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to mechanical impact or static discharge.

**Section 6: Accidental Release Measures**

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all ignition sources and ventilate area. Contain spill with sand or absorbent material and place material in a sealed bag or container for disposal. Wash spill area after pickup is complete. See Section 13 for disposal information.

Section 7: Handling and Storage**White****Handling:** Use with adequate ventilation and do not breathe dust or vapor. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling.**Storage:** Store in Corrosive Area [White Storage] with other corrosive items. Store in a dedicated corrosive cabinet. Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.**Section 8: Exposure Controls / Personal Protection**Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking. Use NIOSH-approved respirator with an acid/organic cartridge. Exposure guidelines: Acetic Acid: OSHA PEL: 25 mg/m³ and ACGIH: 10 ppm TLV, 15 ppm as STEL.

Section 9: Physical and Chemical Properties

Molecular formula	CH ₃ COOH.	Appearance	Clear, colorless liquid.
Molecular weight	60.05.	Odor	vinegar.
Specific Gravity	1.01 g/mL @ 20°C.	Odor Threshold	0.48 ppm.
Vapor Density (air=1)	N/A.	Solubility	Completely soluble in water.
Melting Point	N/A.	Evaporation rate	N/A (<i>Butyl acetate</i> = 1).
Boiling Point/Range	N/A.	Partition Coefficient	N/A (<i>log P_{OW}</i>).
Vapor Pressure (20°C)	N/A.	pH	4, acidic.
Flash Point:	N/A.	UEL	N/A.
Autoignition Temp.:	N/A.	LEL	N/A.

N/A = Not available or applicable

Section 10: Stability and Reactivity

Stability: Stable under normal conditions of use and storage. Avoid heat and ignition sources.

Incompatibility: Oxidizing agents, metals, soluble carbonates and phosphates, hydroxides, amines, and alcohols

Shelf life: Indefinite if stored properly.

Section 11: Toxicology Information

Acute Symptoms/Signs of exposure: *Eyes:* Redness, tearing, itching, burning, damage to cornea, conjunctivitis, loss of vision. *Skin:* Redness, blistering, burning, itching, tissue destruction with slow healing. *Ingestion:* Nausea, vomiting, burning, diarrhea, ulceration, convulsions, shock. *Inhalation:* Coughing, wheezing, shortness of breath, headache, spasm, inflammation and edema of bronchi, pneumonitis.

Chronic Effects: Repeated/prolonged skin contact may cause thickening, blackening or cracking. Repeated eye exposure may cause corneal erosion or loss of vision.

Sensitization: none expected

Acetic acid: LD50 [oral, rat]; 3310 mg/kg; LC50 [rat]; >16000 (4 hour); LD50 Dermal [rabbit]; 1120 mg/kg

Material has not been found to be a carcinogen nor produce genetic, reproductive, or developmental effects.

Section 12: Ecological Information

Ecotoxicity (aquatic and terrestrial): Acetic Acid. LD50 (48 hrs) ; 250 mg/L (*Leuciscus Idusmelanotue*).
EC50 (24 hours): 6000 mg/L (*Daphnia Magna*).

Section 13: Disposal Considerations

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Small amounts of this material may be suitable for sanitary sewer disposal after being neutralized to pH 7.

Section 14: Transport Information

DOT Shipping Name: Not regulated by DOT. **Canada TDG:** Not regulated by TDG.
DOT Hazard Class: **Hazard Class:**
Identification Number: **UN Number:**

Section 15: Regulatory Information

EINECS: Listed (200-580-7).

WHMIS Canada: Not D2B: Toxic.

TSCA: All components are listed or are exempt.

California Proposition 65: Not listed.

The product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Section 16: Other Information

Current Issue Date: September 21, 2012

Disclaimer: Scholar Chemistry and Columbus Chemical Industries, Inc., ("S&C") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because S&C has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. S&C makes no warranty, expressed or implied, including (without limitation) warranties with respect to the completeness or continuing accuracy of the information contained herein or with respect to fitness for any particular use.

Acetic Acid, 2.0N (2.0M)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 12/11/2013

Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : Acetic Acid, 2.0N (2.0M)
Product code : LC10390

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For laboratory and manufacturing use only.

1.3. Details of the supplier of the safety data sheet

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Corr. 1C H314
Eye Dam. 1 H318

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS05

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage
Precautionary statements (GHS-US) : P260 - Do not breathe mist, vapours, spray
P264 - Wash exposed skin thoroughly after handling
P280 - Wear protective gloves, eye protection
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/container to comply with local, state and federal regulations

2.3. Other hazards

Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

Acetic Acid, 2.0N (2.0M)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Water	(CAS No) 7732-18-5	88.16	Not classified
Acetic Acid	(CAS No) 64-19-7	11.84	Flam. Liq. 3, H226 Skin Corr. 1B, H314 Eye Dam. 1, H318

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest. Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Causes severe skin burns and eye damage.
- Symptoms/injuries after eye contact : Causes serious eye damage.

4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Reactivity : Thermal decomposition generates : Corrosive vapours.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses. Gloves. Protective clothing.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

Acetic Acid, 2.0N (2.0M)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not breathe mist, vapours, spray.
- Hygiene measures : Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations.
- Storage conditions : Keep container closed when not in use.
- Incompatible products : Strong oxidizers. metals. Strong bases.
- Incompatible products : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Acetic Acid (64-19-7)		
USA ACGIH	ACGIH TWA (ppm)	10 ppm
USA ACGIH	ACGIH STEL (ppm)	10 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	25 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	10 ppm

8.2. Exposure controls

- Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
- Personal protective equipment : Avoid all unnecessary exposure.
- Hand protection : Wear protective gloves.
- Eye protection : Chemical goggles or face shield.
- Skin and body protection : Wear suitable protective clothing.
- Respiratory protection : Wear appropriate mask.
- Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Colour : Colourless.
- Odour : Vinegar odour.
- Odour threshold : No data available
- pH : No data available
- Relative evaporation rate (butylacetate=1) : No data available
- Melting point : No data available
- Freezing point : No data available
- Boiling point : No data available
- Flash point : No data available
- Self ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability (solid, gas) : No data available
- Vapour pressure : No data available
- Relative vapour density at 20 °C : No data available
- Relative density : No data available
- Density : 1.01 g/ml
- Solubility : Soluble in water.
- Log Pow : No data available

Acetic Acid, 2.0N (2.0M)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Log Kow	: No data available
Viscosity, kinematic	: 1.2 cSt
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong oxidizers. metals. Strong bases.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Water (7732-18-5)

LD50 oral rat	≥ 90000 mg/kg
Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/injuries after eye contact : Causes serious eye damage.

SECTION 12: Ecological information

12.1. Toxicity

Acetic Acid (64-19-7)

LC50 fishes 1	75 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 1	47 mg/l (24 h; Daphnia magna; Not neutralized)
EC50 other aquatic organisms 1	> 5000 mg/l (5 h; Activated sludge)
LC50 fish 2	94 mg/l (96 h; Oryzias latipes)
EC50 Daphnia 2	95 mg/l (24 h; Daphnia magna; Static system)

Acetic Acid, 2.0N (2.0M)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Acetic Acid (64-19-7)	
TLM fish 1	100 ppm (96 h; Carassius auratus)
Threshold limit algae 1	90 mg/l (192 h; Microcystis aeruginosa; Neutralized)
Threshold limit algae 2	4000 mg/l (192 h; Scenedesmus quadricauda; Neutralized)

12.2. Persistence and degradability

Acetic Acid, 2.0N (2.0M)	
Persistence and degradability	Not established.

Acetic Acid (64-19-7)	
Persistence and degradability	Readily biodegradable in water. Inherently biodegradable. Biodegradable in the soil.
Biochemical oxygen demand (BOD)	0.6 - 0.74 g O ₂ /g substance
Chemical oxygen demand (COD)	1.03 g O ₂ /g substance
ThOD	1.07 g O ₂ /g substance
BOD (% of ThOD)	0.56 - 0.69 % ThOD

Water (7732-18-5)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Acetic Acid, 2.0N (2.0M)	
Bioaccumulative potential	Not established.

Acetic Acid (64-19-7)	
Log Pow	-0.31 (Experimental value)
Bioaccumulative potential	Bioaccumulation: not applicable.

Water (7732-18-5)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

Acetic Acid (64-19-7)	
Surface tension	0.028 N/m (20 °C)

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN2790 Acetic acid solution (with more than 10 percent and less than 50 percent acid, by mass), 8, III
UN-No.(DOT) : 2790
DOT NA no. : UN2790
DOT Proper Shipping Name : Acetic acid solution
with more than 10 percent and less than 50 percent acid, by mass
Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard labels (DOT) : 8 - Corrosive substances



Packing group (DOT) : III - Minor Danger

Acetic Acid, 2.0N (2.0M)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Special Provisions (49 CFR 172.102)	: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Additional information

Other information : No supplementary information available.

ADR

Transport document description :

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Acetic Acid, 2.0N (2.0M)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Acetic Acid (64-19-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	5000 lb
Water (7732-18-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. International regulations

CANADA

Acetic Acid, 2.0N (2.0M)	
WHMIS Classification	Class E - Corrosive Material
Acetic Acid (64-19-7)	
WHMIS Classification	Class B Division 3 - Combustible Liquid Class E - Corrosive Material
Water (7732-18-5)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acetic Acid, 2.0N (2.0M)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

15.2.2. National regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1C
H226	Flammable liquid and vapour
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

NFPA health hazard

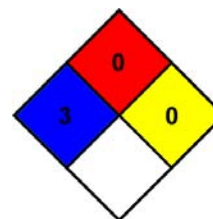
: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard

: 0 - Materials that will not burn.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

Personal Protection : H

SDS US (GHS HazCom 2012)

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 5.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Acetic Acid, 6.1 M - 17.4 M (Glacial)

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 3). Flammable liquid and vapor (H226). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Hazard class: Acute toxicity, dermal (Category 4). Harmful in contact with skin (H312).

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314).

Hazard class: Sensitization, skin (Category 1). May cause an allergic skin reaction (H317). Avoid breathing mist, vapors or spray (P261).

Hazard class: Acute toxicity, inhalation (Category 3). Toxic if inhaled (H331).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Acetic acid	64-19-7	CH ₃ COOH	60.05	>90%
Synonyms: Vinegar acid; Ethanoic acid				

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310). **If inhaled:** Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If on skin (or hair):** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). Wash contaminated clothing before reuse (P363). **If skin irritation or rash occurs:** Get medical advice or attention (P333+P313). **If swallowed:** Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Class II combustible liquid.

Flash point: 40 °C (CC) Flammable limits: Lower: 4.0% Upper: 19.9% Autoignition Temperature: 464 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA CODE

H-3

F-2

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain the spill with sand or other inert absorbent material, neutralize with sodium bicarbonate or calcium hydroxide, and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids. Store away from nitric acid. Store in a dedicated acid cabinet and away from any source of water. If an acid cabinet is not available, store in a Flinn Saf-Cube™. Always add acid to water.

Keep container tightly closed (P233). Keep cool (P235). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear nitrile, neoprene or butyl rubber gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Contaminated work clothing should not be allowed out of the workplace (P272). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: PEL 10 ppm (OSHA) TLV 10 ppm Ceiling 15 ppm (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear, colorless liquid. Strong vinegar-like odor.

Soluble: Miscible with water, alcohol, glycerol, and ether.

Boiling point: 118 °C

Freezes at slightly below room temperature (17 °C).

Melting point: 16.6 °C

pH <2

Specific gravity: 1.05

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, especially chromic and nitric acids. Incompatible with metals (except aluminum), alcohols, amines, permanganates, peroxides, hydroxides, oxides, phosphates, and carbonates.

Shelf life: Good, if stored properly. Store in a dedicated acid cabinet.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Corrosive to body tissues and mucous membranes.

ORL-RAT LD₅₀: 3310 mg/kg

Chronic effects: Respiratory tract inflammation; darkens skin.

IHL-MUS LC₅₀: 5620 ppm/1H

Target organs: Eyes, skin, teeth, respiratory tract.

SKN-RBT LD₅₀: 1.06 mg/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

May be toxic to aquatic life.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #24a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Acetic Acid, Glacial. Hazard class: 8, Corrosive, Flammable Liquid. UN number: UN2789

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-580-7). RCRA code D001, D002.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 6.00

Revision Date: June 26, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Acetic Anhydride

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 3). Flammable liquid and vapor (H226). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314).

Hazard class: Acute toxicity, inhalation (Category 4). Harmful if inhaled (H332). Avoid breathing mist, vapors or spray (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Acetic anhydride	108-24-7	(CH ₃ CO) ₂ O	102.09	
Synonyms: Acetic oxide, Acetyl ether				

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310). **If inhaled:** Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If on skin (or hair):** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). Wash contaminated clothing before reuse (P363). **If swallowed:** Rinse mouth. Do NOT induce vomiting (P301+P330+P331). Call a POISON CENTER or physician if you feel unwell (P301+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Class II combustible liquid.

Flash point: 49 °C (CC) Flammable limits: Lower: 2.7% Upper: 10.3% Autoignition Temperature: 316 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA CODE

H-3

F-2

R-1

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain the spill with sand or other inert absorbent material, neutralize with sodium bicarbonate or calcium hydroxide, and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids. Store away from nitric acid. Keep dry. Reacts violently with water. Should store in a dedicated acid cabinet or Flinn Saf-Cube™. Keep cool (P235). Keep container tightly closed (P233). Use only in a hood or in a well ventilated area.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or in a well ventilated area.

Exposure guidelines: TLV 1 ppm Ceiling 3 ppm (ACGIH) PEL 5 ppm (OSHA)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid.	Boiling point: 140 °C
Odor: Pungent vinegar-like odor.	Evaporation rate: 0.46
Soluble: Slowly in water. Reacts with water, exothermic. See Sections 7 and 10. Viscosity: 0.843 mPa-s @ 25 °C	Melting point: -73 °C
Vapor Pressure: 0.680 kPa (5.1 mm Hg) @ 25 °C	Specific gravity: 1.08
	Vapor density: 3.52 Heavier than air

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with water, mineral acids, oxidizers, and alkalis. Reacts violently (sometimes delayed) with water. Forms ethyl acetate in solution with alcohol.

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Exposure routes: inhalation, ingestion, skin and/or eye contact	ORL-RAT LD ₅₀ : 1780 mg/kg
Acute effects: Corrosive to all body tissues, pulmonary edema.	IHL-RAT LC ₅₀ : 1000 ppm/4 hour
Chronic effects: Pulmonary edema, blindness.	SKN-RBT LD ₅₀ : 4 mL/kg
Target organs: Respiratory system, eyes and skin.	

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #24a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Acetic Anhydride. Hazard class: 8, Corrosive, Flammable Liquid. UN number: UN1715

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

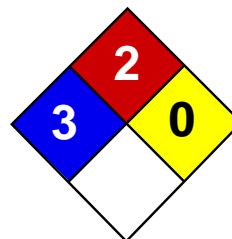
TSCA-listed, EINECS-listed (203-564-8). RCRA code D001, D002

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: June 26, 2015



Health	3
Fire	0
Reactivity	0
Personal Protection	

Material Safety Data Sheet

Aceto Orcein, 2% MSDS

Section 1: Chemical Product and Company Identification

Product Name: Aceto Orcein, 2%

Catalog Codes: SLA4771

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Orcein; Acetic acid; Water

CI#: Not available.

Synonym:

Chemical Name: Not applicable.

Chemical Formula: Not applicable.

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Orcein	1400-62-0	2
Acetic acid	64-19-7	60
Water	7732-18-5	38

Toxicological Data on Ingredients: Orcein LD50: Not available. LC50: Not available. Acetic acid: ORAL (LD50): Acute: 3310 mg/kg [Rat]. 4960 mg/kg [Mouse]. 3530 mg/kg [Rat]. DERMAL (LD50): Acute: 1060 mg/kg [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of ingestion, . Hazardous in case of skin contact (corrosive, permeator). Slightly hazardous in case of eye contact (irritant), of inhalation (lung sensitizer). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath.

Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Non-sensitizer for skin. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to blood, kidneys, lungs, mucous membranes, bladder, gastrointestinal tract, upper respiratory tract. Repeated or prolonged exposure to the substance can produce target

organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: The lowest known value is 427°C (800.6°F) (Acetic acid).

Flash Points: The lowest known value is CLOSED CUP: 39°C (102.2°F). OPEN CUP: 43°C (109.4°F). (Acetic acid)

Flammable Limits: The greatest known range is LOWER: 4% UPPER: 19.9% (Acetic acid)

Products of Combustion: These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances:

Slightly flammable to flammable in presence of oxidizing materials. Non-flammable in presence of open flames and sparks, of shocks, of heat, of reducing materials, of combustible materials, of organic materials, of metals, of acids, of alkalis.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water. **SMALL FIRE:** Use DRY chemical powder. **LARGE FIRE:** Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill:

Flammable liquid. Corrosive liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as acids, alkalis. May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.

Storage:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

Acetic acid TWA: 10 STEL: 15 (ppm) from ACGIH (TLV) [United States] [1998] TWA: 10 (ppm) from NIOSH TWA: 10 (ppm) [Australia] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Not available.

Taste: Not available.

Molecular Weight: Not applicable.

Color: Not available.

pH (1% soln/water): Acidic.

Boiling Point: The lowest known value is 100°C (212°F) (Water). Weighted average: 111.08°C (231.9°F)

Melting Point: May start to solidify at 16.6°C (61.9°F) based on data for: Acetic acid.

Critical Temperature: Not available.

Specific Gravity: Weighted average: 1.03 (Water = 1)

Vapor Pressure: The highest known value is 2.3 kPa (@ 20°C) (Water). Weighted average: 1.81 kPa (@ 20°C)

Vapor Density: The highest known value is 2.07 (Air = 1) (Acetic acid). Weighted average: 1.51 (Air = 1)

Volatility: Not available.

Odor Threshold: The highest known value is 1.018 ppm (Acetic acid)

Water/Oil Dist. Coeff.: The product is more soluble in water.

Ionicity (in Water): Not available.

Dispersion Properties:

Partially dispersed in methanol, diethyl ether, n-octanol. See solubility in water, methanol, diethyl ether, n-octanol, acetone.

Solubility:

Easily soluble in cold water, hot water. Partially soluble in methanol, diethyl ether, n-octanol, acetone.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Reactive with acids, alkalis.

Corrosivity:

Corrosive in presence of steel, of aluminum, of zinc, of copper, of stainless steel(304), of stainless steel(316). Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 3310 mg/kg [Rat]. (Acetic acid). Acute dermal toxicity (LD50): 1060 mg/kg [Rat]. (Acetic acid).

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans:

Extremely hazardous in case of skin contact (corrosive), of eye contact (corrosive), of inhalation (lung corrosive). Very hazardous in case of ingestion, .

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: Class 8: Corrosive material

Identification: : Corrosive liquid, Acidic, Organic, n.o.s. (Aceto Orcein Solution) (Acetic acid) UNNA: UN2790 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

Rhode Island RTK hazardous substances: Acetic acid Pennsylvania RTK: Acetic acid Florida: Acetic acid Minnesota: Acetic acid Massachusetts RTK: Acetic acid New Jersey: Acetic acid TSCA 8(b) inventory: Orcein; Acetic acid; Water CERCLA: Hazardous substances.: Acetic acid: 5000 lbs. (2268 kg);

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):

CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). CLASS D-2A: Material causing other toxic effects (VERY TOXIC). CLASS E: Corrosive liquid.

DSCL (EEC):

R10- Flammable. R21- Harmful in contact with skin. R35- Causes severe burns.

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 0

Personal Protection:

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 2

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 12:46 AM

Last Updated: 05/21/2013 12:00 PM

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MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Date of Prep: 3/20/09

SECTION 1

SUNNYSIDE CORPORATION
225 CARPENTER AVENUE
WHEELING, ILLINOIS 60090
EMERGENCY TELEPHONE

(847) 541-5700
(800) 424-9300

FOR INFORMATION:

(847) 541-5700

- SUNNYSIDE CORPORATION
- CHEM TREC

Product Class: Ketone
Trade Name: ACETONE

Manufacturer's Code:
NPCA HMIS:

840
Health: 1
Flammability: 3
Reactivity: 0

Product Appearance and Odor: Clear, water-white liquid; typical, pungent odor.

SECTION 2 -- HAZARDOUS INGREDIENTS

OCCUPATIONAL EXPOSURE LIMITS

INGREDIENT	CAS #	PERCENT	ACGIH TLV (TWA)	ACGIH TLV (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)	VAPOR PRESSURE
Acetone	67-64-1	100%	500 PPM	750 PPM	750 PPM	1000 PPM	213 MM Hg @ 75° F

SECTION 3 -- EMERGENCY AND FIRST AID PROCEDURES

INHALATION:	Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. If breathing is difficult, qualified medical personnel may administer oxygen and continue to monitor. Keep at rest. Get medical attention immediately.
EYE CONTACT:	Flush eyes immediately with water for at least 15 minutes. Get prompt medical attention.
SKIN CONTACT:	Flush with large amounts of water; use soap if available. Remove grossly contaminated clothing, including shoes, and launder before reuse. Get medical attention if skin irritation develops or persists.
INGESTION:	If swallowed, do not induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 4 -- PHYSICAL DATA

The following data represent approximate or typical values. They do not constitute product specifications.

Boiling Range:	133° (F) (I.B.P.)	Vapor Density:	Heavier than air
Evaporation Rate:	Slower than ether	% Volatile By Volume:	100%
Weight Per Gallon:	6.60 Lbs.		
Solubility in Water:	Complete		

SECTION 5 -- FIRE AND EXPLOSION DATA

Flammability Classification:	Flammable Liquid - Class IB.
Flash Point:	0° (F) (Tag, Closed Cup).
Autoignition Temperature:	869° (F)
Lower Explosive Limit:	2.5% @ 77° (F)
Extinguishing Media:	Either allow fire to burn under controlled conditions or extinguish with alcohol resistant foam and dry chemical. Try to cover liquid spills with foam.
Unusual Fire and Explosion Hazards:	Extremely flammable. Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations.
Special Fire Fighting Procedures:	Use water spray to cool fire exposed surfaces and to protect personnel. Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors.

SECTION 6 -- HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: EFFECTS OF OVEREXPOSURE Inhalation:	500 PPM (ACGIH-Time weighted average). Vapors or mist may cause irritation of the nose and throat. Inhalation may cause dizziness, drowsiness, loss of coordination, disorientation, headache, nausea, and vomiting. In poorly ventilated areas or confined spaces, unconsciousness and asphyxiation may result.
Skin Contact:	Prolonged or repeated skin contact may cause irritation, discomfort and dermatitis.
Eye Contact:	Severely irritating and may injure cornea if not removed promptly. High vapor concentrations are also irritating.
Ingestion:	Product may be harmful or fatal if swallowed. Material is a pulmonary aspiration hazard. Material can enter lungs and cause damage. Ingestion of this product may cause central nervous system effects, which may include dizziness, loss of balance and coordination, unconsciousness, coma and even death.
Carcinogenicity:	Acetone is not listed by the NTP, IARC, or OSHA.

SECTION 7 -- REACTIVITY DATA

Stability:	Stable
Conditions to Avoid:	Heat, sparks and flame.
Incompatibility (Materials to Avoid):	Caustics, amines, alkanolamines, aldehydes, ammonia, strong oxidizing agents, and chlorinated compounds.
Hazardous Decomposition Products:	Thermal decomposition may yield carbon monoxide, carbon dioxide, aldehydes and ketones.
Hazardous Polymerization:	Will not occur.

SECTION 8 -- SPILL OR LEAK PROCEDURES

Steps to be taken in case material is spilled or released: Remove ignition sources, evacuate area, avoid breathing vapors or contact with liquid. Recover free liquid or stop leak if possible. Dike large spills and use absorbent material for small spills. Keep spilled material out of sewers, ditches and bodies of water. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear.

Waste disposal method: Incinerate under safe conditions; dispose of in accordance with local, state and federal regulations.

SECTION 9 -- SAFE HANDLING AND USE INFORMATION

Respiratory Protection:	Where concentrations in air may exceed occupational exposure limits, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.
Ventilation:	Exposure levels should be maintained below applicable exposure limits - see Section 2. This product should not be used in confined spaces, or in a manner that will allow accumulation of high vapor concentrations. However, for controlled industrial uses when this product is used in confined spaces, heated above ambient temperatures or agitated, the use of explosion proof ventilation equipment is necessary.
Protective Gloves:	Chemical resistant gloves (Neoprene or Natural Rubber).
Eye Protection:	Chemical safety goggles and a face shield.
Other Protective Equipment:	Impervious clothing or boots where needed, eyewash facility and a safety shower.

SECTION 10 -- SPECIAL PRECAUTIONS

Dept. of Labor Storage Category:	Flammable Liquid-Class IB.
Hygienic Practices:	Keep away from heat, sparks and flame. Keep containers closed when not in use. Avoid eye contact. Avoid prolonged or repeated contact with skin. Wash skin with soap and water after contact.
Additional Precautions:	Ground containers when transferring liquid to prevent static accumulation and discharge. Additional information regarding safe handling of products with static accumulation potential can be ordered by contacting the American Petroleum Institute (API) for API Recommended Practice 2003, entitled "Protection Against Ignitions Arising Out of Static, Lighting, and Stray Currents" (American Petroleum Institute, 1720 L Street Northwest, Washington, DC 20005), or the National Fire Protection Association (NFPA) for NFPA 77 entitled "Static Electricity" (National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101).
Empty Container Warning:	"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury or death. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to supplier or disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 11 -- ADDITIONAL INFORMATION

This product contains the following toxic chemical(s) which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

TOXIC CHEMICAL	CAS #	APPROXIMATE % BY WEIGHT
NONE	NONE	NONE

SARA Title III Hazard Categories: Immediate (Acute) Health, Delayed (Chronic) Health, Fire

Common Names: 2-Propanone, Dimethylketone

California Proposition 65: This product contains trace amounts of Benzene, a chemical known to the State of California to cause cancer, and Toluene, a chemical known to the State of California to cause birth defects or other reproductive harm.

TRANSPORTATION (U.S. D.O.T. land transportation in packages of 119 gallons or less)

U.S. D.O.T. Proper Shipping Name: Acetone

U.S. D.O.T. I.D Number: UN1090

U.S. D.O.T. Hazard Class: 3

U.S. D.O.T. Packing Group: II

U.S. D.O.T. Hazardous Substance: Acetone, RQ 5000 lbs
Refer to 49 CFR for additional information. Exceptions or exemptions may exist for smaller quantities.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 7.00

Revision Date: September 22, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Acetone

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 2). Highly flammable liquid and vapor (H225). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

Hazard class: Specific target organ toxicity, single exposure; Narcotic effects (Category 3). May cause drowsiness or dizziness (H336). Avoid breathing mist, vapors or spray (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Acetone	67-64-1	CH ₃ COCH ₃	58.08	
Synonyms: Dimethyl ketone, 2-Propanone				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Class IB flammable liquid.

A dangerous fire hazard from heat, flame or strong oxidizers.

Flash point: -17 °C (CC) Flammable limits: Upper 12.8% Lower 2.6% Autoignition temperature: 465 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA CODE

H-1

F-3

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain the spill with sand or other inert absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #4. Store with ethers, ketones, and halogenated hydrocarbons. Store in a dedicated flammables cabinet. If a flammables cabinet is not available, store in Flinn Saf-StorTM can.

Keep container tightly closed (P233). Keep cool (P235). Use only in a hood or well-ventilated area (P271). Take precautionary measures against static discharge (P243).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Use latex, not nitrile gloves. Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: PEL 1000 ppm (OSHA); TLV 500 ppm, STEL 750 ppm (ACGIH); IDLH 2500 ppm

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless liquid. Sweet pungent odor like nail polish remover.
Soluble: Miscible with water, alcohol and many other organic solvents.

Boiling point: 56.5 °C
Density: 0.79
Melting point: -94.6 °C
Vapor density: 2.00

SECTION 10 — STABILITY AND REACTIVITY

Stable. Potentially explosive reaction with strong oxidizing agents and halogenated compounds.

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Eye and respiratory tract irritant, dizziness, CNS depression.

Chronic effects: Dermatitis.

Target organs: Liver, kidneys, CNS, respiratory system.

ORL-RAT LD₅₀: 5800 mg/kg

IHL-RAT LC₅₀: 50,100 mg/m³/8H

SKN-RBT LD_{L0}: 20 mL/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #18a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Acetone. Hazard class: 3, Flammable Liquid. UN number: UN1090.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-662-2), RCRA code U002

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: September 22, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 15.00

Revision Date: June 3, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Acetylsalicylic Acid

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 3). Toxic if swallowed (H301). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Acetylsalicylic acid	50-78-2	C ₉ H ₈ O ₄	180.16	
Synonym: Aspirin				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312). **If inhaled:** Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313). **If on skin:** Wash with plenty of water (P302+P352). Take off contaminated clothing and wash before reuse (P362). **If swallowed:** Rinse mouth (P330). Immediately call a POISON CENTER or physician (P301+P310).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, but combustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Do not allow solid to become airborne. Ventilate area. Wipe up the spill with a damp towel. Place in a sealed bag or container, and dispose. and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids.
Store in a locked poison cabinet. Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: TLV: 5 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Odorless when fresh. As it ages, it becomes vinegar-like.

Soluble: Water and many organic solvents.

Boiling point: 140 °C (decomposes)

Melting point: 135 °C

Specific gravity: 1.35

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, strong acids, and strong bases.
Shelf life: Poor, unless kept dry. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritation eyes, skin, respiratory system; increased blood clotting time; nausea, vomiting; liver, kidney injury.

Chronic effects: Possible teratogen.

Target organs: Eyes, skin, respiratory system, blood, liver, kidneys.

ORL-RAT LD₅₀: 200 mg/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option. Mix with coffee grounds or kitty litter before disposal.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-064-1).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: June 3, 2014

SAFETY DATA SHEET

Acetylene

Section 1. Identification

GHS product identifier	: Acetylene
Chemical name	: acetylene
Other means of identification	: Ethyne; Ethine; Narcylen; C ₂ H ₂ ; Acetylen; UN 1001; Vinylene
Product use	: Synthetic/Analytical chemistry.
Synonym	: Ethyne; Ethine; Narcylen; C ₂ H ₂ ; Acetylen; UN 1001; Vinylene
SDS #	: 001001
Supplier's details	: Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
Emergency telephone number (with hours of operation)	: 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Compressed gas

GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: Extremely flammable gas.
May form explosive mixtures with air.
Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary statements

General

: Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Fusible plugs in top, bottom, or valve melt at 98°C to 107°C (208°F to 224°F). Do not discharge at pressures above 15psig (103kpa). Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Approach suspected leak area with caution.

Prevention

: Never Put cylinders into unventilated areas of passenger vehicles. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use and store only outdoors or in a well ventilated place.

Response

: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Section 2. Hazards identification

- Storage** : Protect from sunlight. Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.
- Disposal** : Not applicable.
- Hazards not otherwise classified** : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Section 3. Composition/information on ingredients

- Substance/mixture** : Substance
- Chemical name** : acetylene
- Other means of identification** : Ethyne; Ethine; Narcylen; C₂H₂; Acetylen; UN 1001; Vinylene

CAS number/other identifiers

- CAS number** : 74-86-2
- Product code** : 001001

Ingredient name	%	CAS number
acetylene	100	74-86-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Contact with rapidly expanding gas may cause burns or frostbite.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Contact with rapidly expanding gas may cause burns or frostbite.
- Frostbite** : Try to warm up the frozen tissues and seek medical attention.
- Ingestion** : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.
Ingestion	: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.

Specific hazards arising from the chemical	: Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
---	--

Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide
---	--

Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.
---	---

Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
---	---

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.
- Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
acetylene	NIOSH REL (United States, 1/2013). CEIL: 2662 mg/m ³ CEIL: 2500 ppm

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Gas.

Color : Colorless.

Molecular weight : 26.04 g/mole

Molecular formula : C₂H₂

Melting/freezing point : -81°C (-113.8°F)

Critical temperature : 35.25°C (95.5°F)

Odor : Mild. Ethereal.

Odor threshold : Not available.

pH : Not available.

Flash point : Closed cup: -18.15°C (-0.67°F)

Burning time : Not applicable.

Burning rate : Not applicable.

Section 9. Physical and chemical properties

Evaporation rate	: Not available.
Flammability (solid, gas)	: Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and oxidizing materials.
Lower and upper explosive (flammable) limits	: Lower: 2.3% Upper: 100%
Vapor pressure	: 635 (psig)
Vapor density	: 0.907 (Air = 1)
Specific Volume (ft ³/lb)	: 14.7058
Gas Density (lb/ft ³)	: 0.0691
Relative density	: Not applicable.
Solubility	: Not available.
Solubility in water	: 1.2 g/l
Partition coefficient: n-octanol/water	: 0.37
Auto-ignition temperature	: 305°C (581°F)
Decomposition temperature	: Not available.
SADT	: Not available.
Viscosity	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Incompatibility with various substances	: Extremely reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Not available.

Sensitization

Section 11. Toxicological information

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.
Inhalation : No known significant effects or critical hazards.
Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.
Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.

Section 11. Toxicological information

- Mutagenicity** : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
acetylene	0.37	-	low

Mobility in soil






- Soil/water partition coefficient (K_{oc})** : Not available.

- Other adverse effects** : No known significant effects or critical hazards.

Section 13. Disposal considerations

- Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1001	UN1001	UN1001	UN1001	UN1001
UN proper shipping name	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environment	No.	No.	No.	No.	No.
Additional information	<u>Limited quantity</u> Yes. <u>Packaging instruction</u> Passenger aircraft Quantity limitation: Forbidden. Cargo aircraft Quantity limitation: 15 kg	<u>Explosive Limit and Limited Quantity Index</u> 0 <u>Passenger Carrying Ship Index</u> 75 <u>Passenger Carrying Road or Rail Index</u> Forbidden <u>Special provisions</u> 38, 42	-	-	<u>Passenger and Cargo Aircraft</u> Quantity limitation: 0 Forbidden <u>Cargo Aircraft Only</u> Quantity limitation: 15 kg

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined
 United States inventory (TSCA 8b): This material is listed or exempted.
 Clean Air Act (CAA) 112 regulated flammable substances: acetylene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

Section 15. Regulatory information

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Sudden release of pressure

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
acetylene	100	Yes.	Yes.	No.	No.	No.

State regulations

Massachusetts : This material is listed.
New York : This material is not listed.
New Jersey : This material is listed.
Pennsylvania : This material is listed.
Canada inventory : This material is listed or exempted.

International regulations

International lists : **Australia inventory (AICS)**: This material is listed or exempted.
China inventory (IECSC): This material is listed or exempted.
Japan inventory: This material is listed or exempted.
Korea inventory: This material is listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): This material is listed or exempted.
Philippines inventory (PICCS): This material is listed or exempted.
Taiwan inventory (CSNN): Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

Canada

WHMIS (Canada) : Class A: Compressed gas.
Class B-1: Flammable gas.
Class F: Dangerously reactive material.
CEPA Toxic substances: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

Section 16. Other information

Canada Label requirements : Class A: Compressed gas.
Class B-1: Flammable gas.
Class F: Dangerously reactive material.

Hazardous Material Information System (U.S.A.)

Health	1
Flammability	4
Physical hazards	2

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



Note: The instability hazard rating for acetylene, dissolved (stabilized acetylene) is 2.

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of printing : 4/26/2015.

Date of issue/Date of revision : 4/26/2015.

Date of previous issue : 10/14/2014.

Version : 0.04

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations
ACGIH – American Conference of Governmental Industrial Hygienists
AIHA – American Industrial Hygiene Association
CAS – Chemical Abstract Services
CEPA – Canadian Environmental Protection Act
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act (EPA)

Date of issue/Date of revision : 4/26/2015. **Date of previous issue** : 10/14/2014. **Version** : 0.04 11/12

Section 16. Other information

CFR – United States Code of Federal Regulations
CPR – Controlled Products Regulations
DSL – Domestic Substances List
GWP – Global Warming Potential
IARC – International Agency for Research on Cancer
ICAO – International Civil Aviation Organisation
Inh – Inhalation
LC – Lethal concentration
LD – Lethal dosage
NDSL – Non-Domestic Substances List
NIOSH – National Institute for Occupational Safety and Health
TDG – Canadian Transportation of Dangerous Goods Act and Regulations
TLV – Threshold Limit Value
TSCA – Toxic Substances Control Act
WEEL – Workplace Environmental Exposure Level
WHMIS – Canadian Workplace Hazardous Material Information System

References : Not available.

 Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/22/2006

Reviewed on 03/21/2006

1 Identification of substance**Product details****Trade name:** SP-30

Application of the substance / the preparation: Soldering flux

Manufacturer/Supplier:

Kester
515 E. Touhy Ave.
Des Plaines, IL 60018

Tel.(847) 297-1600
Fax.(847) 390-9338

Information department:

MSDS Coordinator

Tel. (847) 699-5755

Emergency information:

CHEMTREC 24-Hour Emergency Telephone Number:

(800)424-9300

CHEMTREC 24-Hour Emergency Telephone Number (Outside of the U.S. and Canada):

(703)527-3887

2 Composition/Data on components**Chemical characterization****Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

7646-85-7	zinc chloride	10-25%
12125-02-9	ammonium chloride	2.5-10%
8009-03-8	Petrolatum	50-100%

3 Hazards identification**Information pertaining to particular dangers for man and environment:**

The product has to be labelled due to the calculation procedure of international guidelines.

Harmful if swallowed.

Irritating to respiratory system.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NFPA ratings (scale 0 - 4)

Health = 2

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)

HEALTH	2
FIRE	1
REACTIVITY	0

Health = 2

Fire = 1

Reactivity = 0

4 First aid measures**General information:** Immediately remove any clothing soiled by the product.

(Contd. on page 2)

USA

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Printing date 03/22/2006

Reviewed on 03/21/2006

Trade name: SP-30

(Contd. of page 1)

After inhalation: *Supply fresh air; consult doctor in case of complaints.***After skin contact:** *Immediately wash with water and soap and rinse thoroughly.***After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.***After swallowing:** *Seek immediate medical advice.***5 Fire fighting measures****Suitable extinguishing agents:***CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***Special hazards caused by the material, its products of combustion or resulting gases:***In case of fire, the following can be released:**Carbon monoxide (CO)**Carbon dioxide (CO₂)**Hydrogen chloride (HCl)**Zinc oxide***Protective equipment:** *Wear self-contained respiratory protective device.***6 Accidental release measures****Person-related safety precautions:***Wear protective clothing.**Ensure adequate ventilation***Measures for environmental protection:** *Do not allow to enter sewers/ surface or ground water.***Measures for cleaning/collecting:** *Scoop up paste and deposit in appropriate containers.***7 Handling and storage****Handling:****Information for safe handling:***Ensure good ventilation/exhaustion at the workplace.**Store in cool, dry place in tightly closed receptacles.**Wash hands after handling paste and before eating or smoking. Care should be taken to remove paste from under fingernails.***Information about protection against explosions and fires:** *No special measures required.***Storage:****Requirements to be met by storerooms and receptacles:** *No special requirements.***Information about storage in one common storage facility:** *Not required.***Further information about storage conditions:** *None.***8 Exposure controls and personal protection****Additional information about design of technical systems:** *No further data; see item 7.*

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Printing date 03/22/2006

Reviewed on 03/21/2006

Trade name: SP-30

(Contd. of page 2)

Components with limit values that require monitoring at the workplace:

7646-85-7 zinc chloride

PEL	1 mg/m ³
REL	Short-term value: 2 mg/m ³ Long-term value: 1 mg/m ³
TLV	Short-term value: 2 mg/m ³ Long-term value: 1 mg/m ³ fume

12125-02-9 ammonium chloride

REL	Short-term value: 20 mg/m ³ Long-term value: 10 mg/m ³
TLV	Short-term value: 20 mg/m ³ Long-term value: 10 mg/m ³

Additional information:

PEL = Permissible Exposure Limit (OSHA)

REL = Recommended Exposure Limit (NIOSH)

TLV = Threshold Limit Value (ACGIH)

OSHA = Occupational Safety and Health Administration

ACGIH = American Conference of Governmental Industrial Hygienists

NIOSH = National Institute for Occupational Safety and Health

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment:

When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self-contained breathing apparatus should be worn.

Protection of hands:



Protective gloves

Material of gloves:

Nitrile rubber, NBR

Natural rubber, NR

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

Safety glasses

USA

(Contd. on page 4)

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acc. to ISO/DIS 11014

Printing date 03/22/2006

Reviewed on 03/21/2006

Trade name: SP-30

(Contd. of page 3)

9 Physical and chemical properties

General Information

Form: Pasty
Color: Amber colored
Odor: Mild

Change in condition

Melting point/Melting range: 49°C (120°F)
Boiling point/Boiling range: Undetermined.

Flash point: 221°C (430°F)

Danger of explosion: Product does not present an explosion hazard.

Density at 20°C (68°F): 1.05 g/cm³

Solubility in / Miscibility with

Water: Partly miscible.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Materials to be avoided: Strong acids, strong oxidizers.

Dangerous reactions No dangerous reactions known.

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide

Hydrogen chloride (HCl)

Zinc oxide

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

7646-85-7 zinc chloride

Oral LD50 350 mg/kg (rat)

12125-02-9 ammonium chloride

Oral LD50 1650 mg/kg (rat)

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Strong irritant with the danger of severe eye injury.

through inhalation:

Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system.

through ingestion: May be harmful if swallowed.

Sensitization: No sensitizing effects known.

USA

(Contd. on page 5)

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Printing date 03/22/2006

Reviewed on 03/21/2006

Trade name: SP-30

(Contd. of page 4)

12 Ecological information**General notes:**

Do not allow product to reach ground water, water course or sewage system.
Toxic for aquatic organisms

13 Disposal considerations**Product:****Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

Uncleaned packagings:

Recommendation: *Disposal must be made according to official regulations.*

14 Transport information**DOT regulations:**

Hazard class: -
Not regulated.

Land transport ADR/RID (cross-border):

ADR/RID class: -
Not regulated.

Maritime transport IMDG:

IMDG Class: -
Not regulated.

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: -
Not regulated.

15 Regulations

USA The following information relates to product regulation specific to the USA.

SARA (Superfund Amendments and Reauthorization Act)

Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

(Contd. on page 6)

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acc. to ISO/DIS 11014

Printing date 03/22/2006

Reviewed on 03/21/2006

Trade name: SP-30

(Contd. of page 5)

California Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity:

None of the ingredients is listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

CANADA: The following information relates to product regulation specific to Canada.

Workplace Hazardous Materials Identification (WHMIS):

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS Classification: D2B

Components on Ingredient List for WHMIS:

zinc chloride

ammonium chloride

EUROPEAN UNION

The following information relates to product regulation specific to the directives of the European Union.

Risk phrases:

Harmful if swallowed.

Irritating to respiratory system.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

Keep locked up and out of the reach of children.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

-USA-

(Contd. on page 7)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/22/2006

Reviewed on 03/21/2006

Trade name: SP-30

(Contd. of page 6)

16 Other information

The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester extends no warranties, makes no representations and assumes no responsibility as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Material Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Material Safety Data Sheet as a source for hazard information.

Department issuing MSDS: *Product Safety*

— USA —

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 283.10

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Acidified Copper(II) Nitrate Solution

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Copper(II) nitrate trihydrate	10031-43-3	$\text{Cu}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}$	241.60	1%
Hydrochloric acid	7647-01-0	HCl	36.46	1%
Water	7732-18-5	H_2O	18.00	98%

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain the spill with sand or other inert absorbent material, neutralize with sodium bicarbonate or calcium hydroxide, and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #3. Store with amides, nitrates, nitrites and azides.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear blue liquid. A pungent, acrid odor.

pH: acidic

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong reducing agents.

Shelf life: Good, if stored properly

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Corrosive.

ORL-RAT LD₅₀: 940 mg/kg as copper(II) nitrate

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #24b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

MATERIAL SAFETY DATA SHEET

AcrylPro Ceramic Tile Adhesive

HMIS

HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
PERSONAL PROTECTION	B

1. Product And Company Identification

Supplier

CUSTOM BUILDING PRODUCTS
10400 Pioneer Blvd., Unit #3
Santa Fe Springs, CA 90670 UNITED STATES

Company Contact: GEORGE MARCINA
Telephone Number: (562) 968-2980 Ext 103
FAX Number: (562) 903-2697
E-Mail: georgem@cbpmail.net
Web Site: www.custombuildingproducts.com

Manufacturer

CUSTOM BUILDING PRODUCTS
10400 Pioneer Blvd., Unit #3
Santa Fe Springs, CA 90670 UNITED STATES

Company Contact: GEORGE MARCINA
Telephone Number: (562) 968-2980 Ext 103
FAX Number: (562) 903-2697
E-Mail: georgem@cbpmail.net
Web Site: www.custombuildingproducts.com

Supplier Emergency Contacts & Phone Number

GEORGE MARCINA: (562) 968-2980

Manufacturer Emergency Contacts & Phone Number

GEORGE MARCINA: (562) 968-2980

Issue Date: 05/08/2006

Product Name: AcrylPro Ceramic Tile Adhesive
CAS Number: Not Established
Chemical Formula: Mixture
MSDS Number: 649
Product Code: 1022 Rv.CombVOC

2. Composition/Information On Ingredients

Ingredient Name	CAS Number		Percent Of Total Weight
ACRYLIC Copolymer	Proprietary		5 - 15
ETHYLENE GLYCOL	107-21-1		0 - 5
MINERAL SPIRITS - STODDARD SOLVENT	8052-41-3		1 - 5
Calcium Carbonate	1317-65-3		55 - 65
Urea	57-13-6		0 - 5

3. Hazards Identification

Primary Routes(s) Of Entry

Eye and Skin Contact. Inhalation. Ingestion.

Eye Hazards

Causes eye irritation.

Skin Hazards

May cause skin irritation. Contains components which may pass into body through skin.

Ingestion Hazards

Harmful if swallowed. May cause gastrointestinal irritation, nausea and vomiting. Contains Ethylene Glycol - ingestion of large amounts of this chemical caused liver, kidney and brain damage.

MATERIAL SAFETY DATA SHEET

AcrylPro Ceramic Tile Adhesive

3. Hazards Identification - Continued

Inhalation Hazards

May cause nose, throat, and lung irritation.

Chronic/Carcinogenicity Effects

May contain trace amounts of chemicals that IARC classifies as possible carcinogens.

Teratogenicity (Birth Defects)

May contain trace amounts of chemicals that caused birth defects in animal studies. It did not cause harm to the animal or fetus when applied on skin.

Reproductive Effects

May contain trace amounts of chemicals that caused birth defects in animal studies. It did not cause harm to the animal or fetus when applied on skin.

Mutagenicity (Genetic Effect)

May contain trace amounts of chemicals that caused birth defects in animal studies. It did not cause harm to the animal or fetus when applied on skin.

Conditions Aggravated By Overexposure

May cause eye and skin irritation. May cause nose, throat and lung irritation. May cause gastronomic disturbances.

4. First Aid Measures

Eye

Gently blot or wipe any residue remaining on the face, being careful not to get it in the victim's eyes or skin. Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin

Remove excess from the skin. Wash skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Thoroughly clean before reuse. Get medical attention immediately if irritation (redness, rash, blistering) develops and persists.

Ingestion

If victim is fully conscious, give one or two cups of water or milk to drink. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Get medical attention immediately. If there is any discomfort from ingestion, consult a physician.

Inhalation

If inhaled, remove to fresh air. Get medical attention immediately.

5. Fire Fighting Measures

Flash Point: NONE °F

Flash Point Method: NONE

Lower Explosive Limit: N/A

Upper Explosive Limit: N/A

Fire And Explosion Hazards

Material will not burn until all water has evaporated. Cans may burst open and splatter material if temperatures reach 212 deg F and above.

Extinguishing Media

Foam, CO2, Dry chemical, Water fog.

Fire Fighting Instructions

Firefighters should wear self-contained breathing apparatus and full protective gear.

MATERIAL SAFETY DATA SHEET

AcrylPro Ceramic Tile Adhesive

6. Accidental Release Measures

Clean up spill immediately. Cover with absorbent to contain. Collect and dispose. Use appropriate containers to avoid environmental contamination. Avoid runoff to waterways and sewers. Avoid release to the environment.
Use appropriate personal protective equipment (PPE).

7. Handling And Storage

Handling And Storage Precautions

Store in cool, dry areas away from sunlight, heat and heat sources. Protect from freezing.

Work/Hygienic Practices

Wash thoroughly with soap and water after handling. Use good personal hygiene. Observe good housekeeping practices.

8. Exposure Controls/Personal Protection

Eye/Face Protection

Safety glasses with side shields or goggles recommended.

Skin Protection

Chemical-resistant gloves.

Respiratory Protection

General room ventilation is normally adequate. In case of inadequate ventilation, use NIOSH-approved respirator.

Other/General Protection

General ventilation is usually sufficient. Fan or other device maybe needed if used in small and enclosed areas.

Ingredient(s) - Exposure Limits

ETHYLENE GLYCOL

OSHA VPEL - 50.000 ppm - Ceiling

ACGIH TLV - 100.000 mg /m3 Ceiling as aerosol

MINERAL SPIRITS - STODDARD SOLVENT

ACGIH TLV-TWA 100 ppm

OSHA PEL-TWA 500 ppm

OSHA VPEL - TWA 100 ppm

Calcium Carbonate

OSHA - PEL - TWA - 15mg/m3

Niosh - REL 10 mg/m3

ACGIH- TLV - 10 mg/m3

OSHA - PEL - TWA - 5 mg/m3

Urea

ACGIH TWA - 10 mg/m3 Total

ACGIH TWA - 3mg/m3 Respirable

OSHA TWA -15 mg/m3 Total

OSHA TWA - 5 mg/m3 Respirable

Cal OSHA TWA - 10 mg/m3 Total

Cal OSHA TWA - 5mg/m3 Respirable

Adequate clothing to prevent skin contact.

9. Physical And Chemical Properties

Appearance

White paste

Odor

Mild acrylic odor.

Chemical Type: Mixture

MATERIAL SAFETY DATA SHEET

AcrylPro Ceramic Tile Adhesive

9. Physical And Chemical Properties - Continued

Odor - Continued

Physical State: Liquid

Boiling Point: 212 °F

Specific Gravity: 1.6

Vapor Density: HEAVIER THAN AIR

Solubility: Dilutable in water

Evaporation Rate: Slower than ether

10. Stability And Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur

Incompatible Materials

Avoid contact with strong oxidizers.

Hazardous Decomposition Products

Thermal decomposition in air may result in carbon monoxide and / or carbon dioxide.

Conditions To Avoid (Polymerization)

Hazardous polymerization will not occur. Heat may cause pressure build-up in closed containers

11. Toxicological Information

Chronic/Carcinogenicity

May contain trace amounts of chemicals that IARC classifies as possible carcinogens.

Teratogenicity (Birth Defects)

May contain trace amounts of chemicals that caused birth defects in animal studies. It did not cause harm to the animal or fetus when applied on skin.

Reproductive Effects

May contain trace amounts of chemicals that caused birth defects in animal studies. It did not cause harm to the animal or fetus when applied on skin.

Mutagenicity (Genetic Effects)

May contain trace amounts of chemicals that caused birth defects in animal studies. It did not cause harm to the animal or fetus when applied on skin.

Ingredient(s) - Toxicological Data

ACRYLIC Copolymer

Oral >5000mg / kg - rat

12. Ecological Information

No Data Available...

13. Disposal Considerations

Dispose in accordance with applicable federal, state and local government regulations and industry standards.

14. Transport Information

DOT Shipping Label

Not Regulated

15. Regulatory Information

SARA Section 313 Notification

This product contains ingredients regulated under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 or 40 CFR 372.

MATERIAL SAFETY DATA SHEET

AcrylPro Ceramic Tile Adhesive

15. Regulatory Information - Continued

Ingredient(s) - U.S. Regulatory Information

ETHYLENE GLYCOL

SARA Title III - Section 313 Form "R"/TRI Reportable Chemical

Ingredient(s) - State Regulations

ACRYLIC Copolymer

California - Proposition 65

ETHYLENE GLYCOL

New Jersey - Workplace Hazard

Pennsylvania - Workplace Hazard

California - Proposition 65

MINERAL SPIRITS - STODDARD SOLVENT

New Jersey - Workplace Hazard

Pennsylvania - Workplace Hazard

California - Proposition 65

Massachusetts - Hazardous Substance

New York City - Hazardous Substance

Calcium Carbonate

New Jersey - Workplace Hazard

Pennsylvania - Workplace Hazard

Massachusetts - Hazardous Substance

16. Other Information

HMIS Rating

Health: 1

Fire: 0

Reactivity: 0

Personal Protection: B

Revision/Preparer Information

MSDS Preparer: GEORGE MARCINA

MSDS Preparer Phone Number: (562) 968-2980 ext 103

This MSDS Supersedes A Previous MSDS Dated: 04/20/2006

Disclaimer

THE INFORMATION PRESENTED HERE IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE, WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED, THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

CUSTOM BUILDING PRODUCTS

Printed Using MSDS Generator™ 2000

00628-all codes except:

-0014
-0015
-0016
-0017
-0019
-0024
-0034
-0036
-0037
-0044
-0047
-0054
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-0059
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-4006
-4007
-4009
-9000
-9005
-9006
-9007
-9008
-9017
-9019

Item Numbers: 00628-0004, 00628-0005, 00628-0006, 00628-0007, 00628-0009, 00628-1000, 00628-1006, 00628-1007, 00628-1009, 00628-1015, 00628-1016, 00628-1017, 00628-1019, 00628-1025, 00628-1026, 00628-1027, 00628-1029, 00628-1035, 00628-1036, 00628-1037, 00628-1039, 00628-1045, 00628-1055, 00628-1056, 00628-1057, 00628-1059, 00628-1065, 00628-1066, 00628-1067, 00628-1069, 00628-1075, 00628-1076, 00628-1077, 00628-1079, 00628-1085, 00628-1086, 00628-1087, 00628-1089, 00628-1095, 00628-1096, 00628-1097, 00628-1099, 00628-1106, 00628-1107, 00628-1108, 00628-1109, 00628-1115, 00628-1125, 00628-1126, 00628-1127, 00628-1129, 00628-1135, 00628-1137, 00628-1139, 00628-1145, 00628-1146, 00628-1147, 00628-1149, 00628-1155, 00628-1164, 00628-1165, 00628-1166, 00628-1167, 00628-1169, 00628-1175, 00628-1176, 00628-1177, 00628-1179, 00628-1225, 00628-1226, 00628-1229, 00628-1235, 00628-1236, 00628-1237, 00628-1239, 00628-1245, 00628-1255, 00628-1256, 00628-1257, 00628-1259, 00628-1265, 00628-1266, 00628-1267, 00628-1269, 00628-1275, 00628-1276, 00628-1277, 00628-1279, 00628-1285, 00628-1286, 00628-1287, 00628-1289, 00628-1295, 00628-1296, 00628-1297, 00628-1305, 00628-1306, 00628-1307, 00628-1309, 00628-1315, 00628-1325, 00628-1326, 00628-1327, 00628-1329, 00628-1335, 00628-1336, 00628-1337, 00628-1339, 00628-1345, 00628-1346, 00628-1347, 00628-1349, 00628-1355, 00628-1356, 00628-1357, 00628-1359, 00628-1365, 00628-1366, 00628-1367, 00628-1369, 00628-1378, 00628-1385, 00628-1386, 00628-1387, 00628-1389, 00628-1405, 00628-1406, 00628-1407, 00628-1409, 00628-2005, 00628-2006, 00628-2007, 00628-2009, 00628-2016, 00628-2017, 00628-2019, 00628-2026, 00628-2027, 00628-2029, 00628-2056, 00628-2065, 00628-2069, 00628-2106, 00628-2107, 00628-2109, 00628-2115, 00628-2136, 00628-2137, 00628-2139, 00628-2166, 00628-2167, 00628-5005, 00628-5006, 00628-5007, 00628-5009, 00628-6005, 00628-6006, 00628-6007, 00628-6009, 00628-7005, 00628-7006, 00628-7007, 00628-7009, 00628-8005, 00628-8006, 00628-8007, 00628-8009, 00628-9001, 00628-9009, 00628-9016, 00628-9105

MATERIAL SAFETY DATA SHEET (G1B)

Golden Artist Colors, Inc.
Bell Road
New Berlin, NY 13411

Date Revised: 2/09/07
Phone: (607)847-6154

Prepared by: Ben Gavett

SECTION I - PRODUCT IDENTIFICATION

HAZARDOUS COMPONENTS (Sec. II)

GOLDEN ACRYLIC ARTIST PAINTS (all colors)

GOLDEN Airbrush Colors	1,2,6
GOLDEN Acrylics	1,2,6
GOLDEN Fluid Acrylics	1,2,6
GOLDEN High Load Acrylics	1,2,3,4,6
GOLDEN Glazes	1,2,3,6
GOLDEN Matte Acrylics	1,2,3,4,6
GOLDEN Matte Fluid Acrylics	1,2,3,4,6

GOLDEN ACRYLIC GELS & MEDIUMS

03001 Self Leveling Clear Gel	1,2
03010 Soft Gel (Gloss)	1,2
03013 Soft Gel (Matte)	1,2,3,4
03017 Soft Gel (Semi-gloss)	1,2,3
03020 Regular Gel (Gloss)	1,2
03030 Regular Gel (Matte)	1,2,3,4
03040 Regular Gel (Semi-gloss)	1,2,3
03050 Heavy Gel (Gloss)	1,2
03060 Heavy Gel (Matte)	1,2,3,4
03070 Heavy Gel (Semi-gloss)	1,2,3
03080 Extra Heavy Gel (Gloss)	1,2
03090 Extra Heavy Gel (Matte)	1,2,3,4
03100 Extra Heavy Gel (Semi-gloss)	1,2,3
03110 Extra Heavy/Molding Paste	1,2,5
03120 High Solid Gel (Gloss)	1,2,8
03130 High Solid Gel (Matte)	1,2,3,4,8
03200 Pumice Gels (all)	1,2,3
03215 Clear Granular Gel	1,2
03230 Garnet Gels (all)	1,2,4
03236 Glass Bead Gel	1,2,8
03240 Fiber Paste	1,2
03330 Clear Tar Gel	1,2
03510 Polymer Medium (Gloss)	1,2
03520 Fluid Matte Medium	1,2,3
03530 Matte Medium	1,2,3
03531 Super Loaded Matte Medium	1,2,4
03535 Airbrush Medium	1,2
03537 Airbrush Transparent Extender	1,2
03550 Gesso	1,2,3,5,6
03551 Sandable Hard Gesso	1,2,3,5,6,7
03555 Absorbent Ground (White)	1,2,4,6
03556 Absorbent Ground (Canvas)	1,2,4,6
03560 Black Gesso	1,2,4,5,6
03570 Molding Paste	1,2,5
03571 Hard Molding Paste	1,2,5
03575 Light Molding Paste	1,2
03580 Retarder	2
03640 Acrylic Ground for Pastels	1,2,4
03670 Acrylic Modifier for Plaster	1,2
03690 Silkscreen Medium	1,2
03720 Acrylic Glazing Liquid (Gloss)	1,2
03721 Acrylic Glazing Liquid (Satin)	1,2
03910 GAC-100 Acrylic	1,2
03920 GAC-200 Acrylic	1,2
03950 GAC-500 Acrylic	1,2
03970 GAC-700 Acrylic	1,2
03980 GAC-800 Acrylic	1,2
04900 Phosphorescent Medium	1,2,6

MATERIAL SAFETY DATA SHEET (G1B)

SECTION II - HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

CODE	HAZARDOUS COMPONENTS	CAS NUMBER	OSHA PERMISSIBLE EXPOSURE LIMITS		
			TWA	STEL	CEILING
1	Ammonia	7664-41-7	-	35 ppm	-
2	Propylene Glycol	57-55-6	NE		
3	Amorphous Silica	112945-52-5	6 mg/M ³	-	-
4	Crystalline Silica Cristobalite Quartz	14464-46-1 14808-60-7	0.05 mg/M ³ 0.1 mg/M ³	-	-
5	Calcium Carbonate	1317-65-3	15 mg/M ³	-	-
6	Pigment - see Golden's MSDS Form: G1A				
7	Talc	14807-96-6	2 mg/M ³	-	-
8	Dipropylene Glycol Monobutyl Ether	29911-28-2	NE	-	-

TWA = Time Weighted Average (ave. airborne exposure in 8 hr work shift of a 40 hr work week)

STEL = Short Term Exposure Limit (15 minute time weighted average exposure)

CEILING = exposure not to be exceeded during any part of the work day

ppm = parts of vapor or gas per million parts of contaminated air by volume

mg/M³ = approximate milligrams of substance per cubic meter of air

NE = None Established

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: >100°C/212°F

VAPOR DENSITY: Heavier than air

SOLUBILITY IN WATER: Dilutable

APPEARANCE AND ODOR: Milky white or colored- slight ammonia odor

V.O.C (maximum g/l):

SPECIFIC GRAVITY (H₂O=1): 1.0-2.0

EVAPORATION RATE: Slower than ether

	Actual	Less Water
Acrylic Colors (Heavy Body)	126	281
Fluid Acrylic Colors	110	254
Golden Glaze Colors	332	700
Acrylic Glazing Liquid	340	700

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A

METHOD USED: N/A

FLAMMABLE LIMITS IN AIR BY VOLUME - LOWER: N/A

UPPER: N/A

EXTINGUISHING MEDIA: Carbon dioxide, water spray, foam or dry chemical

SPECIAL FIREFIGHTING PROCEDURES: Use self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Material can splatter above 100°C/212°F. Dried paint film can burn. Decomposition and combustion products may be toxic.

SECTION V - REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY AND CONDITIONS TO AVOID: None known

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Thermal decomposition may yield toxic oxides of carbon, monomer fumes and oxides of nitrogen.

HAZARDOUS POLYMERIZATION: Will not occur

Item Numbers: 00628-0004, 00628-0005, 00628-0006, 00628-0007, 00628-0009, 00628-1000, 00628-1006, 00628-1007, 00628-1009, 00628-1015, 00628-1016, 00628-1017, 00628-1019, 00628-1025, 00628-1026, 00628-1027, 00628-1029, 00628-1035, 00628-1036, 00628-1037, 00628-1039, 00628-1045, 00628-1055, 00628-1056, 00628-1057, 00628-1059, 00628-1065, 00628-1066, 00628-1067, 00628-1069, 00628-1075, 00628-1076, 00628-1077, 00628-1079, 00628-1085, 00628-1086, 00628-1087, 00628-1089, 00628-1095, 00628-1096, 00628-1097, 00628-1099, 00628-1106, 00628-1107, 00628-1108, 00628-1109, 00628-1115, 00628-1125, 00628-1126, 00628-1127, 00628-1129, 00628-1135, 00628-1137, 00628-1139, 00628-1145, 00628-1146, 00628-1147, 00628-1149, 00628-1155, 00628-1164, 00628-1165, 00628-1166, 00628-1167, 00628-1169, 00628-1175, 00628-1176, 00628-1177, 00628-1179, 00628-1225, 00628-1226, 00628-1229, 00628-1235, 00628-1236, 00628-1237, 00628-1239, 00628-1245, 00628-1255, 00628-1256, 00628-1257, 00628-1259, 00628-1265, 00628-1266, 00628-1267, 00628-1269, 00628-1275, 00628-1276, 00628-1277, 00628-1279, 00628-1285, 00628-1286, 00628-1287, 00628-1289, 00628-1295, 00628-1296, 00628-1297, 00628-1305, 00628-1306, 00628-1307, 00628-1309, 00628-1315, 00628-1325, 00628-1326, 00628-1327, 00628-1329, 00628-1335, 00628-1336, 00628-1337, 00628-1339, 00628-1345, 00628-1346, 00628-1347, 00628-1349, 00628-1355, 00628-1356, 00628-1357, 00628-1359, 00628-1365, 00628-1366, 00628-1367, 00628-1369, 00628-1378, 00628-1385, 00628-1386, 00628-1387, 00628-1389, 00628-1405, 00628-1406, 00628-1407, 00628-1409, 00628-2005, 00628-2006, 00628-2007, 00628-2009, 00628-2016, 00628-2017, 00628-2019, 00628-2026, 00628-2027, 00628-2029, 00628-2056, 00628-2065, 00628-2069, 00628-2106, 00628-2107, 00628-2109, 00628-2115, 00628-2136, 00628-2137, 00628-2139, 00628-2166, 00628-2167, 00628-5005, 00628-5006, 00628-5007, 00628-5009, 00628-6005, 00628-6006, 00628-6007, 00628-6009, 00628-7005, 00628-7006, 00628-7007, 00628-7009, 00628-8005, 00628-8006, 00628-8007, 00628-8009, 00628-9001, 00628-9009, 00628-9016, 00628-9105

MATERIAL SAFETY DATA SHEET (G1B)**SECTION VI - HEALTH HAZARD DATA**

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: None expected under normal conditions of use. Irritation of the nose, throat and lungs is associated with excessive exposure to ammonia. Overexposure to dusts and mists from sanding and spraying may be irritating to the respiratory tract. Prolonged exposure to excessive concentrations of silica dust may cause chronic pulmonary disease.

For products containing crystalline silica:

WARNING: This product contains a chemical known to the State of California to cause cancer.

EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE: Contact may be irritating to eyes. Absorbent Ground may be very irritating upon eye contact.

SKIN CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE: Prolonged or repeated contact may be irritating to skin.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: May cause irritation to gastrointestinal system. Chronic ingestion overexposure to Propylene Glycol may cause CNS effects and kidney damage.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Pre-existing skin, eye, or respiratory conditions may be aggravated by exposure.

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: Flush with water for 15 minutes. SEE DOCTOR if any symptoms persist.

SKIN CONTACT: Wash with soap and water. SEE DOCTOR if skin irritation occurs.

INHALATION: Remove subject to fresh air.

INGESTION: SEE DOCTOR if there are symptoms of exposure.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Floors may be slippery, care should be exercised to avoid falls. Dike and contain spill with inert material. Transfer material to containers for recovery or disposal.

WASTE DISPOSAL METHOD: Dispose as per local, state or EPA regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Avoid freezing - product may coagulate.

OTHER PRECAUTIONS: None

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: None required under normal use. When sanding or spraying, use a NIOSH/MSHA certified dust and mist respirator. If conditions warrant, a multi-gas and vapor respirator for protection against organic vapor and ammonia may be appropriate.

VENTILATION: None required under normal use. When using large amounts, adequate ventilation is recommended (e.g. window exhaust fan).

PROTECTIVE GLOVES: None required under normal use. For techniques requiring continual hand exposure, gloves are recommended.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: None required under normal use.

WORK/HYGIENIC PRACTICES: All Golden products should be used in accordance with safe handling practices, including: do not eat, drink or smoke when working with materials, avoid excessive skin contact, wash after working with materials.

SECTION IX - ADDITIONAL PRECAUTIONS AND INFORMATION**DISCLAIMER**

While Golden Artist Colors Inc. believes the data set forth herein is accurate as of the date hereof, Golden Artist Colors Inc., makes no warranty with respect to the accuracy of this data, and expressly disclaims all liability for reliance thereon. Such data is offered solely for your consideration, investigation and verification.

Item Numbers: 00628-0004, 00628-0005, 00628-0006, 00628-0007, 00628-0009, 00628-1000, 00628-1006, 00628-1007, 00628-1009, 00628-1015, 00628-1016, 00628-1017, 00628-1019, 00628-1025, 00628-1026, 00628-1027, 00628-1029, 00628-1035, 00628-1036, 00628-1037, 00628-1039, 00628-1045, 00628-1055, 00628-1056, 00628-1057, 00628-1059, 00628-1065, 00628-1066, 00628-1067, 00628-1069, 00628-1075, 00628-1076, 00628-1077, 00628-1079, 00628-1085, 00628-1086, 00628-1087, 00628-1089, 00628-1095, 00628-1096, 00628-1097, 00628-1099, 00628-1106, 00628-1107, 00628-1108, 00628-1109, 00628-1115, 00628-1125, 00628-1126, 00628-1127, 00628-1129, 00628-1135, 00628-1137, 00628-1139, 00628-1145, 00628-1146, 00628-1147, 00628-1149, 00628-1155, 00628-1164, 00628-1165, 00628-1166, 00628-1167, 00628-1169, 00628-1175, 00628-1176, 00628-1177, 00628-1179, 00628-1225, 00628-1226, 00628-1229, 00628-1235, 00628-1236, 00628-1237, 00628-1239, 00628-1245, 00628-1255, 00628-1256, 00628-1257, 00628-1259, 00628-1265, 00628-1266, 00628-1267, 00628-1269, 00628-1275, 00628-1276, 00628-1277, 00628-1279, 00628-1285, 00628-1286, 00628-1287, 00628-1289, 00628-1295, 00628-1296, 00628-1297, 00628-1305, 00628-1306, 00628-1307, 00628-1309, 00628-1315, 00628-1325, 00628-1326, 00628-1327, 00628-1329, 00628-1335, 00628-1336, 00628-1337, 00628-1339, 00628-1345, 00628-1346, 00628-1347, 00628-1349, 00628-1355, 00628-1356, 00628-1357, 00628-1359, 00628-1365, 00628-1366, 00628-1367, 00628-1369, 00628-1378, 00628-1385, 00628-1386, 00628-1387, 00628-1389, 00628-1405, 00628-1406, 00628-1407, 00628-1409, 00628-2005, 00628-2006, 00628-2007, 00628-2009, 00628-2016, 00628-2017, 00628-2019, 00628-2026, 00628-2027, 00628-2029, 00628-2056, 00628-2065, 00628-2069, 00628-2106, 00628-2107, 00628-2109, 00628-2115, 00628-2136, 00628-2137, 00628-2139, 00628-2166, 00628-2167, 00628-5005, 00628-5006, 00628-5007, 00628-5009, 00628-6005, 00628-6006, 00628-6007, 00628-6009, 00628-7005, 00628-7006, 00628-7007, 00628-7009, 00628-8005, 00628-8006, 00628-8007, 00628-8009, 00628-9001, 00628-9009, 00628-9016, 00628-9105

APR - 10 03 (THU) 16:37 SARGENT ART

TEL: 5704591752

00733 P. 015 1006

01-09-04

Sargent Art inc.100 East Diamond Ave.
Hazleton, Pennsylvania 18201-5241
800-424-3596
570-454-3596 • Fax: 570-459-1752**Material Safety Data Sheet****U.S. Department of Labor**Occupational Safety and Health
Administration

May be used to comply with

OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements.(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072**IDENTITY (As Used on Label and List)**
SARGENT ACRYLIC MEDIUM -
PEARLESCENTNote: Blank spaces are not permitted. If any
item is not applicable, or no information is
available, the space must be marked to
indicate that.**Section I -**

Manufacturer's Name Sargent Art, Inc.	Emergency Telephone Number 570-454-3596
Address (Number, Street, City, State, and ZIP Code)	Telephone Number for Information 570-454-3596
100 E Diamond Avenue	Date Prepared 7-26-2002
Hazleton PA 18201	Signature of Preparer (optional)

Section II - Hazard Ingredients/Identity Information**Hazardous Components (Specific
Chemical Identity; Common Name(s))**

ALL AP PRODUCTS ARE CERTIFIED BY A NATIONAL RECOGNIZED AUTHOR-
ITY ON TOXICOLOGY ASSOCIATED WITH A LEADING UNIVERSITY TO CONTAIN
NO KNOWN TOXIC MATERIALS IN SUFFICIENT QUANTITIES TO BE
INJURIOUS TO THE HUMAN BODY EVEN IF INGESTED.

CONFORMS TO ASTM-D 4236.

Section III - Physical/Chemical Characteristics -

Boiling Point NOT APPLICABLE	Specific Gravity (H₂O = 1) N/A
Vapor Pressure (mm Hg.) N/A	Melting Point N/A
Vapor Density (AIR = 1) N/A	Evaporation Rate N/A (Butyl Acetate = 1)
Solubility In Water	Water Soluable - Water Dispersible
Appearance and Odor	White, Milky, Mild, Sweet

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) N/A	Flammable Limits LEL UEL NONE NONE NONE
Extinguishing Media	CARBON DIOXIDE, WATER, FOAM
Special Fire Fighting Procedures	SELF-CONTAINED BREATHING APPARATUS
Unusual Fire and Explosion Hazards	NONE

V 3665

APR. -10' 03 (THU) 16:37 SARGENT ART

TEL: 5704591752

P. 014



100 East Diamond Ave.
 Hazleton, Pennsylvania 18201-5241
 800-424-3596
 570-454-3596 - Fax: 570-459-1752

Section V - Reactivity Data

Stability	Unstable	Conditions to Avoid
	Stable X	None Known
Incompatibility (Materials to Avoid)	Strong oxidizers and acids	

Hazardous Decomposition or Byproducts

Hazardous Polymerization	May Occur	Conditions to Avoid
	Will Not Occur X	None Known

Section VI - Health Hazard Data

Route(s) of Entry: Inhalation? Possible	Skin? N/A	Ingestion? Possible
--	------------------	----------------------------

Health Hazards (Acute and Chronic)

This product is certified to contain no toxic or injurious to humans or to cause materials in sufficient quantities to be acute or chronic health problems.

Carcinogenicity: NTP? None	IARC Monographs? N/A	OSHA Regulated? No
Signs and Symptoms of Exposure	None Known	

Medical Conditions

Generally Aggravated by Exposure None Known

Emergency and First Aid Procedures If ingested, do not induce vomiting, call physician.

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled	Sweep into container and dispose of according to local regulations.
Waste Disposal Method	In accordance with local regulations.
Precautions to Be taken in Handling and Storing	Keep in cool, dry area.
Other Precautions	None Known

Section VIII - Control Measures

Respiratory Protection (Specify Type)	Not Required		
Ventilation	Local Exhaust	Not Required	Special None
Mechanical (General)	Not Required	Other	None
Protective Gloves	Not Required	Eye Protection	Not Required
Other Protective Clothing or Equipment	Not Required		
Work/Hygienic Practices	Clean, safe work practices		

Page 2

MATERIAL SAFETY DATA SHEET

MSDS 0291

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

		HMIS CODES	
PRODUCT NAME	Actabs Jr.	Health	2
		Flammability	0
		Reactivity	0
PRODUCT CODES	68104	PPI	B
CHEMICAL FAMILY	Organic/Inorganic		
USE	Evaporator Cooler Treatment		
MANUFACTURER'S NAME	The RectorSeal Corporation	EMERGENCY TELEPHONE NO.	
	2601 Spenwick Drive	Chemtrec 24 Hours	
	Houston, Texas 77055 USA	(800)424-9300 USA	
		(703)527-3887 International	
DATE OF VALIDATION	April 18, 2012	TECHNICAL SERVICE TELEPHONE NO.	
DATE OF PREPARATION	April 18, 2012	(800)231-3345 or (713)263-8001	

Section 2 -- HAZARDS IDENTIFICATION

GHS CLASSIFICATION

PHYSICAL HAZARDS: None

HEALTH HAZARDS

Acute Toxicity:

Oral: Category 5

Dermal: Not Classified

Inhalation: Not Classified

Skin Corrosion/Irritation: Category 3

Serious Eye Damage/Eye Irritation: Category 1

Respiratory or Skin Sensitization: Not Classified

Germ Cell Mutagenicity: Not Classified

Carcinogenicity: Not Classified

Reproductive Toxicology: Not Classified

Target Organ Systemic Toxicity - Single Exposure: Not Classified

Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment: Not Classified

Acute aquatic toxicity: Not Classified

Chronic aquatic toxicity: Not Classified

Bioaccumulation potential: Not Classified

Rapid degradability: Not Classified

GHS Label elements, including precautionary statements

Pictogram: N/A

Signal Word: Danger

Hazard Statements:

H302 - Harmful if swallowed.

H315 - Causes skin irritation.

H318 - Causes serious eye damage.

Precautionary Statements:

P102 - Keep out of reach of children.

P262 - Do not get in eyes, on skin, or on clothing.

P264 - Wash hands thoroughly after handling.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P301+, P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P305+, P351+, P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P362 - Take off contaminated clothing and wash before reuse.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

LABELING SYMBOLS:

N/A

RISK R-PHRASES:

R22 : Harmful if swallowed.

R34 : Causes burns.

SAFETY S-PHRASES:

S2 : Keep out of the reach of children.

S7 : Keep container tightly closed.
 S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.
 S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

 HMIS CODES

Health 2
 Flammability 0
 Reactivity 0
 PPI B

SUMMARY OF ACUTE HAZARDS

Causes irreversible eye damage and skin irritation.

ROUTE OF EXPOSURE, SIGNS AND SYMPTOMS

INHALATION

N/A

EYE CONTACT

Corrosive: Causes irreversible eye damage.

SKIN CONTACT

Skin irritation.

INGESTION

Phosphates are slowly and incompletely absorbed when ingested, and seldom result in systemic effects. Such effects, however, have occurred. Symptoms may include vomiting, lethargy, diarrhea, blood chemistry effects, heart disturbances and central nervous system effects. The toxicity of phosphates is because of their ability to sequester calcium. Systemic acidosis may result as this material is believed to hydrolyze into phosphoric acid when ingested.

SUMMARY OF CHRONIC HAZARDS

None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

May induce severe gastroenteric distress (vomiting, gastroenteric pain, and local corrosion and hemorrhages), prostration, anuria, hematuria, anemia, increase in white blood cells, icterus, coma, respiratory difficulties, and circulatory failure.

=====
 Section 3 -- COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY: Organic/Inorganic

INGREDIENT: n-Alkyl (98% C12, 2% C14)-dimethyl
 -1-naphthylmethyl ammonium chloride
 -monohydrate

PERCENTAGE BY WEIGHT: 10

CAS NUMBER: 53516-75-9

EC# : Not listed

INGREDIENT: Sodium Bicarbonate

PERCENTAGE BY WEIGHT: 30

CAS NUMBER: 144-55-8

EC# : 205-633-8

INGREDIENT: Sodium Carbonate

PERCENTAGE BY WEIGHT: 29

CAS NUMBER: 497-19-8

EC# : 207-838-8

INGREDIENT: Urea

PERCENTAGE BY WEIGHT: 29

CAS NUMBER: 57-13-6

EC# : 200-315-5

INGREDIENT: Fragrance

PERCENTAGE BY WEIGHT: 2

CAS NUMBER: Not listed

EC# : Not listed
 =====

Section 4 -- FIRST AID MEASURES

If INHALED: N/A

If on SKIN: Immediately wash with soap and water. Remove and wash any contaminated clothing.

If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention if irritation persists.

If SWALLOWED: Call a doctor or get medical attention. Do not induce vomiting or give anything by mouth to an unconscious person. Drink promptly a large quantity of milk, egg whites, gelatin

solution, or if these are not available, drink large quantities of water. Avoid alcohol.

=====
Section 5 -- FIRE FIGHTING MEASURES
=====

EXTINGUISHING MEDIA

Non-combustible. Use agents appropriate for surrounding fires.

SPECIAL FIRE FIGHTING PROCEDURES: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: None
=====

Section 6 -- ACCIDENTAL RELEASE MEASURES
=====

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Sweep up excess material to prevent footing hazard. Discard in trash.
=====

Section 7 -- HANDLING AND STORAGE
=====

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in dry place.

OTHER PRECAUTIONS: Avoid prolonged or repeated contact with skin or clothing.
=====

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION
=====

INGREDIENT	UNITS	
n-Alkyl (98% C12, 2% C14)-dimethyl		
-1-naphthylmethyl ammonium chloride		
-monohydrate		
ACGIH TLV	N/D	
OSHA PEL	N/D	
Sodium Bicarbonate		
ACGIH TLV	N/D	
OSHA PEL	N/D	
Sodium Carbonate		
ACGIH TLV	N/D	
OSHA PEL	N/D	
Urea		
ACGIH TLV	N/D	
OSHA PEL	N/D	
Fragrance		
ACGIH TLV	N/D	
OSHA PEL	N/D	

RESPIRATORY PROTECTION (SPECIFY TYPE): Normally none required. Use NIOSH/MSHA approved particulate respirator for nuisance dust.

VENTILATION - LOCAL EXHAUST: Acceptable

SPECIAL: N/A

MECHANICAL (GENERAL): Acceptable

OTHER: N/A

PROTECTIVE GLOVES: Wear rubber gloves.

EYE PROTECTION: Safety glasses (ANSI Z-87.1 or equivalent)

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Coveralls recommended.

WORK/HYGIENIC PRACTICES: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.
=====

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES
=====

pH:	7-8
BOILING POINT:	N/A
SPECIFIC GRAVITY (H2O = 1):	2.28
VAPOR PRESSURE (mm Hg):	N/A
MELTING POINT:	N/D
VAPOR DENSITY (AIR = 1):	N/A
EVAPORATION RATE (ETHYL ACETATE = 1):	N/A
APPEARANCE/ODOR:	Yellow Tablet / Fragrant Odor
SOLUBILITY IN WATER:	Soluble
VOLATILE ORGANIC COMPOUNDS (VOC) Content	
(Theoretical Percentage By Weight):	0% or (0 g/L)
FLASH POINT	None
LOWER EXPLOSION LIMIT	N/D
UPPER EXPLOSION LIMIT	N/D

Section 10 -- STABILITY AND REACTIVITY
=====

STABILITY: Stable

CONDITIONS TO AVOID: None

INCOMPATIBILITY (MATERIALS TO AVOID): None known

HAZARDOUS DECOMPOSITION PRODUCTS: None known

HAZARDOUS POLYMERIZATION: Will not occur.

 Section 11 -- TOXICOLOGY INFORMATION

CHRONIC HEALTH HAZARDS

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

 TOXICOLOGY DATA

Ingredient Name

 n-Alkyl (98% C12, 2% C14)-dimethyl
 -1-naphthylmethyl ammonium chloride
 -monohydrate

Oral-Rat LD50: >5000 mg/kg estimated

Inhalation-Rat LCLo:N/D

 Section 12 -- Ecological Information

ECOLOGICAL DATA

Ingredient Name

 n-Alkyl (98% C12, 2% C14)-dimethyl
 -1-naphthylmethyl ammonium chloride
 -monohydrate

Food Chain Concentration Potential N/D

WATERFOWL TOXICITY N/D

BOD N/D

AQUATIC TOXICITY N/D

 Section 13 -- DISPOSAL CONSIDERATIONS

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not considered hazardous as defined under the
 Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in
 accordance with Federal, State, and Local regulation regarding pollution.

 Section 14 -- TRANSPORTATION INFORMATION

DOT: Non-Regulated

OCEAN (IMDG): Non-Regulated

AIR (IATA): Non-Regulated

WHMIS (CANADA): Non-Regulated

 Section 15 -- REGULATORY INFORMATION

REGULATORY DATA

Ingredient Name

 n-Alkyl (98% C12, 2% C14)-dimethyl
 -1-naphthylmethyl ammonium chloride
 -monohydrate

SARA 313 No

TSCA Inventory Yes

CERCLA RQ N/A

RCRA Code N/A

 Section 16 -- OTHER INFORMATION

LABELING SYMBOLS:

N/A

RISK R-PHRASES:

R22 : Harmful if swallowed.

R34 : Causes burns.

SAFETY S-PHRASES:

S2 : Keep out of the reach of children.

S7 : Keep container tightly closed.

S26 : In case of contact with eyes, rinse immediately with plenty of
 water and seek medical advice.

S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.

S45 : In case of accident or if you feel unwell, seek medical advice
 immediately (show the label where possible).

This document is prepared pursuant to 91/155/EEC ISO 11014-1. The information
 herein is given in good faith, but no warranty, expressed or implied is made.

Consult RectorSeal for further information: (713) 263-8001

**SRW VOC ADHESIVE
MATERIAL SAFETY DATA SHEET**

MSDS Name: SRW VOC Retaining Wall & Paver Adhesive
MSDS Number: 56461
MSDS Revision Date: 06-07-06
Page Number: 1 of 7

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: SRW VOC Retaining & Paver Adhesive
CAS Number: none
HMIS Hazard Rating: Health: 2 Fire: 3 Reactivity: 0

Company Identification: SRW Products • Princeton, MN

Contact: SRW Products
Telephone/Fax: (800)752-9326 • (763)389-2725
Emergency Phone (24 Hr.): (614) 445-1300
Chemtrec (24 Hour): (800) 424-9300
Chemtrec International: (703) 527-3887

Product Class: Solvent based
Product Use: Construction adhesive
Product Code: 53102

Division: Construction Adhesives & Sealants

SECTION 2 - COMPOSITION AND INFORMATION ON INGREDIENTS

Hazardous Ingredients	CAS Number	Percent
methyl acetate	79-20-9	17.62
acetone	67-64-1	3.70
hexane	110-54-3	2.53

OSHA PELs & ACGIH TLVs are listed in Section 8 where applicable.

SECTION 3 - HAZARD IDENTIFICATION

NOTE:

Repeated and prolonged overexposure to the mixture of solvent(s) listed in Section 2 can result in systemic effects including permanent brain, nervous system, liver, and kidney damage. Intentional misuse by deliberately concentrating & inhaling the contents may be harmful or fatal.

EMERGENCY OVERVIEW:

DANGER: EXTREMELY FLAMMABLE, VAPOR HARMFUL. CONTAINS ACETONE, METHYL ACETATE, AND HEXANE. Vapors can cause flash fire. Vapors can ignite explosively. Prevent buildup of vapors by opening all windows and doors to create cross-ventilation. Keep away from heat, sparks and open flame. Do not smoke. Turn off stoves, heaters and sparking electric motors. Keep container tightly closed when not in use. Avoid prolonged breathing of vapor. KEEP OUT OF THE REACH OF CHILDREN. Product is a beige, medium viscosity mastic.

ROUTES OF ENTRY:

Ingestion: Yes
Inhalation: Yes
Skin: Yes
Eye: Yes

**SRW VOC ADHESIVE
MATERIAL SAFETY DATA SHEET**

MSDS Name:	SRW VOC Retaining Wall & Paver Adhesive
MSDS Number:	56461
MSDS Revision Date:	06-07-06
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INHALATION:

Avoid breathing vapor or mists. May cause headaches and dizziness. High vapor concentrations are irritating to the nose, throat and lungs and can cause systemic effects. Vapors can readily accumulate in confined or poorly ventilated areas.

INGESTION:

Ingestion is not a probable route of exposure. Harmful if swallowed.

SKIN:

Prolonged or repeated contact can cause moderate irritation, defatting and dermatitis.

EYE:

Substance may cause severe eye irritation.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Preexisting neurological conditions, skin disorders, and respiratory disease.

CARCINOGENICITY:

IARC: No

NTP: No

OSHA: No

REPRODUCTIVE TOXICITY:

This product has not been evaluated for reproductive toxicity.

TARGET ORGANS:

Prolonged or repeated overexposure may cause eye, skin, respiratory system, central nervous system, peripheral nervous system, liver and kidney damage.

SECTION 4 - FIRST AID MEASURES

INHALATION:

Remove to fresh air. If difficulty persists seek medical attention.

INGESTION:

Call poison control center immediately. Follow their specific instructions. Do not induce vomiting.

SKIN:

Wash with soap and water. Contact a physician if irritation develops or persists.

EYE:

Hold eyelids apart and flush with plenty of water for at least 15 minutes. Seek medical attention.

SECTION 5 - FIRE-FIGHTING MEASURES

Flammability Class (OSHA) IB

Flash Point: < 0 F

Setaflash

Explosive Range: Lower explosive limit 1.%

Upper explosive limit 16.%

**SRW VOC ADHESIVE
MATERIAL SAFETY DATA SHEET**

MSDS Name:	SRW VOC Retaining Wall & Paver Adhesive
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Flammable liquid. Can form explosive mixtures at temperatures at or above the flashpoint.

EXTINGUISHING MEDIA:

Use alcohol foam, carbon dioxide, or dry chemical when fighting fires involving this product.

HAZARDOUS COMBUSTION PRODUCTS:

Oxides of carbon may be released during combustion.

FIRE FIGHTING PROCEDURES:

Wear a NIOSH approved self contained breathing apparatus. Wear appropriate personal protective equipment. Use water spray or fog to cool fire exposed containers. Closed containers may explode when exposed to extreme heat.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

CONTAINMENT TECHNIQUES:

Use inert absorbent to dike the spill. Keep away from drains.

CLEAN-UP:

If possible pump liquid into an approved container or spread absorbent over spill and shovel (use non-sparking equipment) product/absorbent mixture into an approved container. If product has dried, scrape up and place in an approved container.

EMERGENCY MEASURES:

Isolate hazard area. Keep unnecessary and unprotected personnel from entering area. Wear all appropriate personal protection equipment (PPE) (see Section 8).

SECTION 7 - HANDLING AND STORAGE

HANDLING:

Avoid breathing vapors from the headspace of containers. Keep containers closed when not in use. Use only in well ventilated area. Follow all MSDS/label precautions even after container is emptied. Containers may retain product residues and vapors.

STORAGE:

Keep away from sources of ignition. Store large quantities in buildings designed for storage of NFPA Class 1B flammable materials.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Limits

	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
methyl acetate	200.00 PPM	N/est	250.00 PPM	N/est	200.00 PPM
acetone	500.00 PPM	N/est	1000.00 PPM	N/est	1000.00 PPM
hexane	50.00 PPM	N/est	N/est	N/est	500.00 PPM

**SRW VOC ADHESIVE
MATERIAL SAFETY DATA SHEET**

MSDS Name:	SRW VOC Retaining Wall & Paver Adhesive
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ENGINEERING CONTROLS:

Use local exhaust as needed to maintain occupational exposure limits. Maintain standard plant ventilation.

OTHER:

Facilities storing or utilizing any chemical should be equipped with an eyewash facility and a safety shower.

RESPIRATORY PROTECTION:

Where exposure limits may be exceeded select a NIOSH approved respirator with appropriate Protection Factor and cartridge for the specific contaminants. Follow requirements for respiratory protection in OSHA 1910.134.

EYE PROTECTION:

Chemical splash goggles (ANSI Z87.1 or approved equivalent).

SKIN PROTECTION:

Where skin contact can occur, wear impervious gloves.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Form:	Mastic
Appearance/Color:	Beige
Odor:	Solvent
Solubility (in water):	Nil
pH Value:	Not Applicable
Boiling Range/Point:	133.øF - 154.øF
Evaporation Rate:	Faster than n-Butyl Acetate
% Volatile:	24.%
Specific Gravity:	1.25
VOC:	47 g/l

SECTION 10 - STABILITY AND REACTIVITY

Stability:	This product is stable
Hazardous Polymerization:	Hazardous polymerization will not occur

CONDITIONS TO AVOID:

Heat, sparks, open flame

INCOMPATIBILITY:

Strong oxidizing agents, acids and bases.

HAZARDOUS DECOMPOSITION PRODUCTS:

Oxides of carbon may be released during combustion.

SECTION 11 - TOXICOLOGICAL INFORMATION

Adverse health effects are not expected from normal use of this product. The following is toxicological information for individual components.

Hexane - Acute:

Ingestion of hexane can cause nausea, vomiting, stomach pain, and diarrhea. Hexane can irritate the skin and the eyes. Acutely, the most common toxic effects are central

**SRW VOC ADHESIVE
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nervous system depression and chemical pneumonitis resulting from aspiration into the lungs following ingestion.

Hexane - Chronic:

Dermal irritation and central nervous system depression accompanied by peripheral nervous system damage (polyneuropathy) are common traits of sustained overexposure.

Methyl Acetate:

Breathing small amounts of methyl acetate during normal handling may cause irritation to the mucous membranes of the nose, throat and lungs. Excessive inhalation can cause central nervous system depression which could include dizziness, drowsiness, weakness, fatigue, nausea, headache and unconsciousness. Methyl acetate is a moderate eye irritant and can cause stinging, redness and swelling of the eyes. It is also a skin irritant and prolonged contact will result in defatting and redness of the skin which could lead to dermatitis. Ingestion of methyl acetate can cause nausea, vomiting, and diarrhea.

Acetone - Acute:

Acetone has a low order of acute and inhalation toxicity. Acetone is a slight skin irritant and moderately severe eye irritant. Excessive inhalation can cause headache, drunkenness, and weakness.

Acetone - Chronic:

Kidney damage and anemia can result from sustained high level exposure. Acetone is reported to potentate the liver toxicity of chloroform.

SECTION 12 - ECOLOGICAL INFORMATION

This formulation has not been tested for environmental effects.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Disposal of this product must comply with all applicable federal, state and local regulations.

CONTAINER DISPOSAL:

Disposal of this container should comply with all applicable federal, state and local regulations.

SECTION 14 - TRANSPORT INFORMATION

For any 10.5-ounce size of this product and for all 29-ounce to 1 gallon sizes of this product not shipped by air:

DOT:

UN Number:	None
UN Pack Group:	Not applicable
UN Class:	ORM-D
Shipping Name:	Consumer Commodity

AIR:

UN Number:	ID8000
UN Pack Group:	Not applicable
UN Class:	9

**SRW VOC ADHESIVE
MATERIAL SAFETY DATA SHEET**

MSDS Name: SRW VOC Retaining Wall & Paver Adhesive
MSDS Number: 56461
MSDS Revision Date: 06-07-06
Page Number: 6 of 7

ICAO/IATA Class: 9
Shipping Name: Consumer Commodity
MARITIME:
UN Number: UN1133
UN Pack Group: 3
UN Class: 3
IMDG Class: ADHESIVE, 3, UN1133, PG III, LTD.QTY.
Shipping Name: ADHESIVE
EMS Code: F-E, S-D

For air shipments of 29-ounce to 1 gallon sizes of this product or any shipment of this product in a 1 gal to 5 gal container:

UN Number: UN1133
UN Pack Group: III
UN Class: 3
ICAO/IATA Class: 3
IMDG Class: 3
Shipping Name: Adhesives containing a Flammable Liquid

Packaging may not be approved for shipping by air. Please contact SRW Products for further information.

SECTION 15 - REGULATORY INFORMATION

SARA TITLE III SECTION 313:

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR 372:

Chemical Name	CAS Number	Percent
hexane	110-54-3	2.53
toluene	108-88-3	trace

- PROP 65 (TERATOGEN)

WARNING: This product contains a chemical known to the state of California to cause birth defects or other reproductive harm.

Chemical Name	CAS Number	Percent
toluene	108-88-3	trace

TSCA (Toxic Substances Control Act Inventory):

All components of this product are listed on the TSCA inventory except as exempted.

PENNSYLVANIA:

Hazardous components required to be listed at 1% or more:

acetone; 2-propanone; 67-64-1
methyl acetate; 79-20-9
kaolin clay; kaolin; 1332-58-7
hexane; 110-54-3
limestone; 1317-65-3

Non-hazardous ingredients required to be listed at 3%:

petroleum hydrocarbon resin 68131-87-3

NEW JERSEY:

methyl acetate 79-20-9, hexane 110-54-3, acetone 67-64-1, petroleum hydrocarbon resin 68131-87-3, clay 1332-58-7

**SRW VOC ADHESIVE
MATERIAL SAFETY DATA SHEET**

MSDS Name: SRW VOC Retaining Wall & Paver Adhesive
MSDS Number: 56461
MSDS Revision Date: 06-07-06
Page Number: 7 of 7

SECTION 16 - OTHER INFORMATION

DISCLAIMER:

While the information and recommendations set forth herein are believed to be accurate as of the data hereof, SRW Products makes no warranty, express or implied, with respect thereto and disclaims all liability from reliance thereon.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 21.00

Revision Date: June 4, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Adipoyl Chloride/Hexane Solution

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 2). Highly flammable liquid and vapor (H225). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Aspiration hazard (Category 1). May be fatal if swallowed and enters airways (H304).

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314).

Hazard class: Serious eye damage or irritation (Category 2B). Causes eye irritation (H320).

Hazard class: Specific target organ toxicity, single exposure; Narcotic effects (Category 3). May cause drowsiness or dizziness (H336). Avoid breathing mist, vapors or spray (P261).

Hazard class: Reproductive toxicity (Category 2). Suspected of damaging fertility or the unborn child (H361). Obtain special instructions before use (P201). Do not handle until all safety precautions have been read and understood (P202). Use personal protective equipment as required (P281).

Hazard class: Specific target organ toxicity, single exposure (Category 2). May cause damage to organs (H371). Do not eat, drink or smoke when using this product (P270).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Adipoyl chloride	111-50-2	$\text{ClOC}(\text{CH}_2)_4\text{COCl}$	183.03	4.6% (0.25M)
Hexanes (mixture of isomers)	110-54-3	C_6H_{14}	86.18	95.4%

SECTION 4 — FIRST AID MEASURES

If exposed or concerned: Call a POISON CENTER or physician (P309+P313).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313). **If on skin (or hair):** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). **If skin irritation occurs:** Get medical advice or attention (P332+P313). **If swallowed:** Immediately call a POISON CENTER or physician (P301+P310). Do NOT induce vomiting (P331).

SECTION 5 — FIRE FIGHTING MEASURES

Class IB flammable liquid due to hexanes. Dangerous fire risk.

Flash point: -23 °C Flammable limits: Lower: 1.2% Upper: 7.7% Autoignition Temperature: 250 °C

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain the spill with sand or other inert absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #3. Store with hydrocarbons, oils, esters and aldehydes. Store in a dedicated flammables cabinet. If a flammables cabinet is not available, store in Flinn Saf-Stor™ can. Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271). Use explosion-proof electrical and ventilating equipment (P241).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: (as n-hexane) PEL 500 ppm (OSHA), TLV 500 ppm Ceiling 1000 ppm (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless to slightly yellow liquid. Strong odor of hexane.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, chlorine, fluorine, and magnesium perchlorate.

Shelf life: Fair, if stored safely.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: irritation eyes, nose; nausea, headache; peripheral neuropathy: numb extremities, muscle weak; dermatitis; dizziness.

Chronic effects: Neurological hazard.

Target organs: Eyes, skin, respiratory system, central nervous system, peripheral nervous system

N.A. = Not available, not all health aspects of this substance have been fully investigated.

ORL-RAT LD₅₀: 25,000 mg/kg (as hexanes)

IHL-RAT LC₅₀: 48,000 ppm/4H (as hexanes)

SKN-RBT LD₅₀: N.A.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #18b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Hexanes. Hazard class: 3, Flammable liquid. UN number: UN1993.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (203-777-6), RCRA code D001.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: June 4, 2014



27 McIntosh Avenue
Clarendon Hills, IL 60514
(888) 977-3726
(630) 323-0980
(630) 323-2356 Fax

Material Safety Data Sheet *GYM WIPES*

Prepared: 02/2006

(Substitute form OSHA-20) Supersedes: 6/01/2005 This MSDS complies with 29 CFR 1910.1200 (The Hazard Communication Standard)

Emergency Phone No: (630) 323-0980

Section 1 – Product Identification

Trade Name & Synonyms: Gym Wipes Product Identification Number(s): 2XL-37 and 2XL-38
Chemical Family: Disinfectant
Formula: Proprietary Information

Section 2 – Composition Information on Ingredients

Component	CAS#	% (by vol.)	OSHA Hazard
GymWipes	Proprietary	100%	Yes

Section 3 – Physical and Chemical Properties

Boiling Point (°F):	N/D
Freezing Point (°F):	N/D
Melting Point (°F):	N/D
Vapor Pressure (mm Hg):	N/D
Vapor Density (air=1):	N/D
Solubility in Water:	Complete
pH:	10.8 (as is)
Specific Gravity:	1.0017 @25C
Percent Volatiles (wt%)	N/D
Evaporation Rate (nBuAc=1):	N/D
VOC (wt%):	N/D
VOC (lbs/gal):	N/D
Viscosity:	N/D
Flash Point:	N/A
Lower Explosion Limit:	N/A
Upper Explosion Limit:	N/A
Auto Ignition Temperature:	N/D
Appearance:	Clear, colorless liquid, lemon scented*

*Tested using the liquid component of the towelette

Section 4 – Stability and Reactivity Data

Stability: Stable under normal conditions.
Conditions To Avoid: None known.
Incompatible Materials: None known.
Hazardous Decomposition: None known.
Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions.

Section 5 – Toxicological Information

LD50 Oral: No Data
LD50 Skin: No Data
LC50 Inhalation: No Data

Section 6 – Ecological Information

Ecotoxicological Information: No Data
Chemical Fate Information: No Data

Section 7– Hazard Identification

Potential Health Effects:
Routes of Exposure: Eyes. Ingestion. Skin. Inhalation.
Target Organs: None known.
Eyes: May cause mild irritation.
Skin: No hazard expected under normal use. Prolonged exposure may cause mild irritation.
Skin Absorption: No absorption hazard expected under normal use.
Inhalation: No hazard expected under normal use.
Ingestion: No hazard expected under normal use.
Medical Conditions Aggravated By Exposure To Product: None known.
Other: None known.
Potential Environmental Effects: See Section 12

Section 8 – First-Aid Measures

Eye Contact: Irrigate with water while holding eyelids open.
Skin Contact: Flush with plenty of water. If irritation develops, get medical attention.
Inhalation: Remove to fresh air.
Ingestion: If swallowed do not induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Section 9 - Fire Fighting Measures

Extinguishing Media: For fires in area use appropriate media. For example: Water spray, Carbon Dioxide, Dry Chemical or Foam
Fire Fighting Methods: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-Approved self-contained breathing apparatus.
Unusual Fire and Explosion Hazards: None known.
Hazardous Combustible Products: None known.

Section 10 – Accidental Release Measures

Spill Clean-Up Procedures: Spills are unlikely with pre-saturated wipes. Maintain adequate ventilation. Follow personal protective equipment recommendation found in Section 12. Contain spill, place into drums for proper disposal. Soak up residue with inert absorbent material. Place in non-leaking containers for immediate disposal. Flush remaining area with water to remove trace residue and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

Section 11 – Handling and Storage

Handling: Avoid eye contact. Do not swallow.
Storage: Store in a cool, dry place. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers.

Section 12 – Exposure Controls/Personal Protection

Engineering Controls: General room ventilation is required. Avoid creating dust or mist. Maintain adequate ventilation. Do not use in closed or confined spaces. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Eye/Face: Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. (Consult your safety equipment supplier).

Skin: Material is not considered a skin contact hazard; however, it is advised that personnel minimize skin contact. Protective gloves: Impervious. Chemical-resistant.

Respiratory: None required under normal use. If exposure limits are exceeded, wear: NIOSH-Approved organic respirator. NIOSH-Approved self-contained breathing apparatus. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

Other: Eye-wash station. Safety shower. Chemical safety shoes.

Section 13 – Disposal Considerations

Hazardous Waste Number: N/A

Disposal Method: Dispose of in accordance with all local, state and federal regulations. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition.

Section 14 – Transportation Information

DOT (Department of Transportation):

Proper Shipping Name: Not regulated by the DOT.

Identification Number: N/A

Packing Group: N/A

Section 15 – Additional Information

NFPA Rating System

Health: 0

Flammability: 0

Reactivity: 0

Special Hazard: None

MSDS Abbreviations

N/A: Not Applicable

N/D: Not Determined

VOC: Volatile Organic Compound

N/E: Not Established





The data in this Material Safety Data Sheet relates to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control it should not be taken as warranty or representation for which 2XL Corporation assumes legal responsibility. This information is provided solely for your consideration, investigation and verification.

**KANO LABORATORIES, INC.
SAFETY DATA SHEET**

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Manufacturer: Kano Laboratories, Inc.
1000 E. Thompson Lane
Nashville, TN 37211
Information Phone Number: (615) 833-4101
Fax: (615) 833-5790 **Emergency:** 800-424-9300 (Chemtrec)
Website: www.kanolaboratories.com

HMIS Hazard Rating

	HEALTH	1
	FLAMMABILITY	2
	REACTIVITY	0
	PERSONAL PROTECTION	X

Product Name: AEROKROIL
MSDS Date of Preparation: 6/7/09
Product Use: Penetrant/Lubricant for Industrial Use

SECTION 2: HAZARDS IDENTIFICATION

Slightly reddish liquid with a refreshing odor packaged as an aerosol.

EMERGENCY OVERVIEW

WARNING! Contents under pressure. Heated can may rupture. Combustible Liquid and Vapor. May cause eye and skin irritation. May be harmful if absorbed through the skin. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects such as headache, dizziness, nausea and vomiting. Harmful or fatal if swallowed. Aspiration into the lungs during ingestion or vomiting may cause lung damage. May cause chronic effects.

Potential Health Effects:

Eye: May cause eye irritation with redness, tearing and stinging. Corneal injury is possible if not promptly removed.

Skin: May cause mild irritation with redness, rash, swelling. Prolonged or repeated contact may result in defatting and dermatitis. May be absorbed through the skin with effects similar to inhalation and ingestion.

Inhalation: Inhalation of vapors or mists may cause mucous membrane and upper respiratory tract irritation and central nervous system depression. Symptoms may include burning sensation, coughing, wheezing, sore throat, shortness of breath, headache, dizziness, drowsiness, nausea, vomiting, depressed respiration and heart rate, heart rhythm irregularities and unconsciousness.

Ingestion: Ingestion is an unlikely route of exposure for aerosol products. Swallowing may cause gastrointestinal irritation with abdominal pain, nausea, vomiting and diarrhea and central nervous system depression with symptoms including headache, dizziness, intoxication, weakness, respiratory failure, convulsions, cardiovascular collapse and pulmonary edema. Aspiration into the lungs during ingestion or vomiting may cause lung damage.

Chronic Hazards: Prolonged or repeated exposure may cause damage to the central nervous system, blood, kidney and liver. This product contains chemicals that in animal studies caused harm to the developing fetus, but only at exposure levels that harm the pregnant animal. There is no evidence of adverse fetal or reproductive effects in humans.

Carcinogen Status: None of the components of this product at greater than 0.1% are listed as carcinogens by OSHA, IARC or NTP.

Medical Conditions Aggravated by Exposure: Pre-existing eye, skin, respiratory, heart, central nervous system, liver and kidney disorders.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	%
Severely Hydrotreated Petroleum Distillates	64742-52-5	30-50
Light Petroleum Distillates	64742-95-6/64742-88-7/ 64742-47-8	30-50
Aliphatic Alcohols	78-92-2/123-42-2	1-5
Glycol Ether	111-76-2	1-5
Proprietary Ingredients	Proprietary	5-15
Carbon Dioxide Propellant	124-38-9	1-15

SECTION 4: FIRST AID MEASURES

Eye: Rinse thoroughly with water for at least 15 minutes, holding the eye lids open to be sure the material is washed out. Get immediate medical attention.

Skin: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation or symptoms of exposure develop. Launder clothing before re-use.

Inhalation: Remove victim to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Ingestion: Ingestion is an unlikely route of exposure for aerosol products. DO NOT induce vomiting. Keep the victim calm and warm. Never give anything by mouth to an unconscious or drowsy person. Get immediate medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: 124°F (51°C) COC (concentrate)

Flammable Limits: LEL: 0.9%
UEL: 10.6%

Autoignition Temperature: Not Determined

Aerosol Flame Extension: None

Aerosol Flashback: None

Aerosol Protection Level (NPPA 30B): Level 3

Extinguishing Media: Use carbon dioxide, dry chemical or foam. Water may be ineffective but can be used to cool containers and structures.

Special Fire Fighting Procedures: Wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water. Protect against bursting cans.

Unusual Fire Hazards: Contents under pressure. Keep away from heat and open flames. Container may rupture or explode in the heat of a fire. Prolonged exposure to temperatures above 120°F may cause cans to burst. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Never use welding or cutting torch on or near containers (even empty) because product can ignite explosively. Combustion products may be hazardous.

Hazardous Decomposition Products: Oxides of carbon, organic compounds, smoke and fumes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill: Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Wear appropriate protective clothing to prevent eye and skin contact including impervious gloves, safety goggles and respirator if needed (refer to Section 8 for specific recommendations). Ventilate area. Cover with an inert absorbent material and collect into an appropriate container for disposal. Report spills and releases as required to appropriate authorities.

SECTION 7: HANDLING AND STORAGE

Handling: Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Wash exposed skin thoroughly with soap and water after use. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Do not cut, braze, solder, grind or weld on or near containers. Contents under pressure. Do not puncture or incinerate container.

Storage Store in a cool, well ventilated area at temperatures below 120°F. Do not store in direct sunlight. Store as a Level 3 aerosol.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	Exposure Limits
Severely Hydrotreated Petroleum Distillates	5 mg/m3 OSHA PEL-TWA 5 mg/m3 ACGIH TLV-TWA 10 mg/m3 ACGIH TLV-STEL
Light Petroleum Distillates	100 ppm OSHA PEL-TWA 100 ppm ACGIH TLV-TWA
Aliphatic Alcohol	150 ppm OSHA PEL-TWA 100 ppm ACGIH TLV-TWA
Aliphatic Alcohol	50 ppm OSHA PEL-TWA 50 ppm ACGIH TLV-TWA
Glycol Ether	50 ppm OSHA PEL-TWA 20 ppm ACGIH TLV-TWA
Proprietary Ingredients	None Established
Carbon Dioxide Propellant	5000 ppm OSHA PEL-TWA 5000 ppm ACGIH TLV-TWA 30000 ppm ACGIH TLV-STEL

Ventilation: Use with adequate general or local exhaust ventilation to maintain concentrations below the occupational exposure limits. Use explosion proof electrical equipment and wiring where required.

Respiratory Protection: If needed, a NIOSH approved respirator with organic vapor cartridges may be used. For higher exposures, a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Skin Protection Impervious gloves are recommended when needed to avoid skin contact. Based on available test data, 4H or Silver Shield gloves are suggested.

Eye Protection: Chemical safety goggles recommended.

Other Protective Equipment: Impervious clothing as required to prevent skin contact and contamination of personal clothing. Suitable eye wash and washing facilities should be available in the work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Slightly reddish liquid with a refreshing odor packaged as an aerosol.

pH: 6-7

Boiling Point: 258°F

Vapor Pressure: 12 mm Hg @ 20°C (aliphatic alcohol)

Vapor Density (air =1): Greater than 1

Specific Gravity: 0.87

Melting Point: Not applicable

Water Solubility: Negligible

Evaporation Rate (ether=1): Less than 1

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage or use.

Incompatibility/Conditions to Avoid: Avoid strong oxidizing agents, reducing agents, acids, bases, amines, alkanolamines, ammonia, chlorinated compounds. Avoid heat, sparks, flames and all other sources of ignition.

Hazardous Decomposition Products: Combustion will produce oxides of carbon, organic compounds, smoke and fumes.

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION
--

Toxicological testing has not been performed on this product as a mixture.

The calculated acute toxicity values, as determined by the DOT and other agency standard formula are: Oral LD50 = 2270; Dermal LD50 = 1500 mg/kg. Aerokroil is not classified as toxic under workplace or transportation criteria.

SECTION 12: ECOLOGICAL INFORMATION

No data available.

SECTION 13: DISPOSAL INFORMATION

Dispose in accordance with all local, state and federal regulations. Do not puncture or incinerate containers. When contents are depleted, continue to depress button until all gas is expelled.

SECTION 14: TRANSPORT INFORMATION
--

DOT Proper Shipping Name: Consumer Commodity

DOT Technical Name: None

DOT Hazard Class: ORM-D

UN Number: None

DOT Labels Required (49CFR172.101): None

Hazardous Substance (49CFR172.101): None

Reportable Quantity: None

DOT Marine Pollutants: This product does not contain marine pollutants as defined in 49CFR 171.8.

IMDG Shipping Description: Aerosols, 2, UN1950, FP 51 C, Limited Quantity

ID Number: UN1950

Hazard Class: 2

Packing Group: None

Labels Required: None

Marking Required: Aerosol Marking On Carton

Placards Required: Limited Quantities On Transport Containers

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA TITLE III:

Hazard Category for Section 311/312: Acute Health, Chronic Health, Fire Hazard, Sudden Release of Pressure

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:

Aliphatic Alcohol	78-92-2	1-5%
Glycol Ether	111-76-2	1-5%
1,2,4-Trimethylbenzene	95-63-6	.5 - < 5%

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

SECTION 16: OTHER INFORMATION

HMIS Ratings: Health - 1 Flammability - 2 Reactivity - 0

NFPA Ratings: Health - 1 Flammability - 2 Reactivity - 0

=====

The information contained herein has been developed based upon current available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or the consequences of its use or misuse.



Material Safety Data Sheet

Date Prepared/Revised: 8/2/2012 Version no.: 02 Supersedes: (11/30/2010)

1. Identification of the Mixture and of the Company

Product identifier: **Aervoe Striping Paint - Aerosol**

Product name:

Striping Marking Paint

701 Traffic White Supreme	730 Traffic Red
702 Traffic Yellow Supreme	740 Traffic Orange
710 Traffic White	750 Traffic Blue
715 Field White	760 Traffic Green
720 Traffic Yellow	770 Asphalt Black

Relevant identified uses of the substance: This paint may be used for line striping parking lots, warehouse floors, school yards, factory safety aisles, tennis courts, and other applications where separations are needed.

Uses advised against: Poorly ventilated areas

CAS No.:	Not Applicable (mixture)
Manufacturer/Supplier:	Aervoe Industries Incorporated
Street address/P.O. Box:	1100 Mark Circle
Country ID/Postcode/Place:	Gardnerville, Nevada 89410
Telephone number:	001 (0) 1-775-782-0100
e-mail:	mailbox@aervoe.com
National contact:	Aervoe industries Incorporated
For Product Information:	001 (0) 1-800-227-0196
Emergency telephone number:	001 (0) 1-800-424-9300 (CHEMTREC – 24 hrs)
	English Language Service

2. Hazards identification

This product does not meet the criteria for classification according to Directive 1999/45/EC

Potential health effects: **See Section 11**

Primary routes of entry: **Inhalation, Skin, Eyes, Ingestion**

3. Composition / Information on Ingredients

Material	CAS Number	EINECS Number	Weight Percent	Risk and Safety Phrases	Notes
Hydrocarbon Propellant	68476-86-8	270-705-8	10-30%	R12, R45, R46, S45, S53	
n-Butyl Acetate	123-86-4	204-658-1	1-5%	R10, R66, R67, S2, S25	
Hexane	110-54-3	203-777-6	7-13%	R11, R38, R48/20, R62, R65, R67, R51/53, S2, S9, S16, S29, S33, S36/37, S61, S62	
Glycol Ether EB Acetate	112-07-2	203-933-3	1-5%	R20, R21, S24	
Acetone	67-64-1	200-662-2	7-13%	R11, R36, R66, R67, S2, S9, S16, S26	
Ethyl Acetate	141-78-6	205-500-4	1-5%	R11, R36, R66, R67, S2, S16, S26, S33	
Aliphatic Hydrocarbon	8052-41-3	232-489-3	1-5%	R45, R46, R65, S45, S53	



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For full text of R&S- phrases: see section 16.

R Code Summation: R11, R12, R20, R21, R24, R36, R38, R45, R46, R48, R53, R62, R65, R66, R67

S Code Summation: S2, S9, S16, S23, S24, S26, S29, S33, S37, S45, S53, S61

4.) First Aid Measures

General Advice:	If symptoms persist, always call a doctor.
Inhalation First Aid:	Remove victim to fresh air and provide oxygen if breathing is difficult. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention immediately.
Skin Contact First Aid:	Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse.
Eye Contact First Aid:	If contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids open. Get medical attention immediately.
Ingestion First Aid:	If swallowed, wash out mouth with water provided the person is conscious. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5. Fire Fighting Measures

Flammable Properties:	Aerosol
Flash Point:	<0° C (-18° F)
Auto Ignition Temperature:	Not Available
Flammable Limits in Air:	
% by Volume:	LEL: 0.9% UEL: 12.8%
Suitable extinguishing media:	Carbon dioxide, dry chemical, water spray.
Unsuitable extinguishing media:	None known
Special hazards arising from the substance or mixture:	None known
Hazardous combustion products:	Carbon dioxide, Carbon monoxide
Fire & Explosion Hazards:	Closed Containers may rupture due to the buildup of pressure from extreme temperatures.
Advice for fire-fighters:	Use water spray to cool containers exposed to heat or fire to prevent pressure build up. In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

PERSONAL PRECAUTIONARY MEASURES:

- 1) Follow personal protective equipment recommendations found in section 8.
- 2) Maintain adequate ventilation.



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SPILL CLEAN-UP PROCEDURES:

- 1.) Evacuate unprotected personnel from the area.
- 2.) Remove sources of ignition if safe to do so.
- 3.) Pickup spilled materials using non-sparking tools and place in an appropriate container for disposal.
- 4.) Contain spill to prevent material from entering sewage or ground water systems.
- 5.) Always dispose of waste materials in accordance with all EU, National and Local Regulations.

7. Handling and Storage

Flammable Aerosol, use in a well ventilated area.

Do not use near sources of ignition.

Store out of direct sunlight.

Storage Temperature: 32° to 120°F (0° to 49°C)

Do not to eat, drink and smoke while working with this material.

Wash hands after use.

8. Exposure Controls / Personal Protection

Appropriate engineering controls:

Ensure adequate ventilation. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits.

Keep away from sources of ignition.

Take precautionary measures against static discharge.

Personal Protection:

Eye & face protection devices such as safety glasses, safety goggles or face shield are recommended.

Skin protection

Wear the appropriate protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection:

Use only in an adequately ventilated area. For unknown vapor concentrations use a positive-pressure, pressure-demand, self-contained breathing apparatus (SCBA).

Hazardous Ingredient	CAS Number	TWA	STEL
Hydrocarbon Propellant	68476-86-8	N/AV	N/AV
Hexane	110-54-3	50	N/AV
Acetone	67-64-1	500	750
n-Butyl Acetate	123-86-4	150ppm	200ppm
Glycol Ether EB Acetate	112-07-2	N/AV	N/AV
Ethyl Acetate	141-78-6	400	N/AV
Aliphatic Hydrocarbon	8052-41-3	100	N/AV



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9. Information on Basic Physical and Chemical Properties

Appearance: Opaque Liquid	Odor: Hydrocarbon odor
Odor Threshold: N/AV	pH: Not Applicable (solvent Base)
Melting Point: N/AV	Freezing Point: N/AV
Initial Boiling Point: N/AV	Boiling Point Range: N/AV
Flash Point: <0° C (-18° F)	Evaporation Rate: Faster Than n-Butyl Acetate
Flammability Solid/Gas: Flammable gas	Upper LEL: 0.7% Lower LEL: 12.8%
Vapor Pressure: N/AV	Vapor Density: Heavier Than Air
Relative Density: N/AV	Solubility: Negligible
Partition Coefficient: n-octanol/ water: N/AV	Auto-ignition Temperature: N/AV
Decomposition Temperature: N/AV	Viscosity: N/AV
Explosive Properties: N/AV	Oxidizing Properties: N/AV

10. Stability & Reactivity

Possibility of hazardous reactions: Hazardous polymerization will not occur under normal conditions

Conditions to avoid: Heat and ignition sources

Incompatible materials: Strong Oxidizing Agents

Hazardous decomposition products: Will not occur

11. Toxicological Information

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Repeated overexposure can also damage kidneys, lungs, liver, heart and blood

12. Ecological Information

Toxicity: **No Data Available**

Persistence and degradability: **No Data Available**

Bioaccumulative potential: **No Data Available**

Mobility in soil: **No Data Available**

Results of PBT and vPvB assessment: **No Data Available**

Other adverse effects: **No Data Available**

13. Disposal Considerations

Waste Disposal: Dispose of material in accordance with EU, national and local requirements. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.

Product / Packaging disposal: Dispose of packaging in accordance with federal, state and local requirements, regulations and/or laws governing your location.



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14. Transportation Information

US DOT

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Not Applicable

IMDG

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Not Applicable

IATA:

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Not Applicable

15. Regulatory Information

Workplace classification:

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). The Occupational Safety and Health Administration's interpretation of the product's hazard to workers.

SARA Title 3:

Section 311/312 Categorizations (40 CFR 372): This product is a hazardous chemical under 29 CFR 1910.1200, and is categorized as an immediate and delayed health, and flammability physical hazard. Superfund Amendment and Reauthorization Act (SARA) category. SARA requires reporting any spill of any hazardous substance.

TSCA status: All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

PROP 65 (CA): Warning: This product may contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

List of relevant Risk and Safety phrases:

R Phrases:

R11: Highly flammable
R12: Extremely flammable
R20: Harmful by inhalation
R21: Harmful in contact with skin
R24: Toxic in contact with skin
R36: Irritating to eyes



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R45: May cause cancer
R46: May cause heritable genetic damage
R48: Danger of serious damage to health by prolonged exposure
R53: May cause long-term adverse effects in the aquatic environment
R62: Possible risk of impaired fertility
R65: Harmful: may cause lung damage if swallowed
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapours may cause drowsiness and dizziness

S Phrases: S2: Keep out of the reach of children
S9: Keep container in a well-ventilated place
S16: Keep away from sources of ignition - No smoking
S23: Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer)
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S29: Do not empty into drains
S33: Take precautionary measures against static discharges
S37: Wear suitable gloves
S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)
S53: Avoid exposure - obtain special instructions before use
S61: Avoid release to the environment. Refer to special instructions/safety data sheet

National Fire Protection Association (NFPA) ratings

Health = 2 Flammability = 4 Reactivity = 1

This SDS has been completed in accordance with Regulation (EC) No. 1907/2006

Date of Preparation/Revision: 8/2/2012
Supersedes: (11/30/2010)

To the best of our knowledge, the information contained herein is believed to be accurate. However, the above data does not imply any guarantee or warranty of any kind, expressed or implied. The final determination of the suitability of any material is the sole responsibility of the user. All materials made present un-known hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee these are the only hazards existing.

SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product Identifier : **ARDEX AF 355 Cove Base Adhesive**
Product Code : 700106015
Trade Name/Synonyms : ARDEX AF 355
Recommended Use : Adhesive for installing vinyl and rubber cove base.
Uses Advised Against : No information available.
Manufacturer's name and address: Supplier's name and address



ARDEX Engineered Cements
400 Ardex Park Dr.
Aliquippa, PA 15001 USA
Information Telephone No. :
(800) 232-4832 or (724) 203-8000
Website Address: : <http://www.ardexamericas.com>



Flooring Solutions

Div. of L. Fishman & Son, Inc

Fishman Flooring Solutions
6301 E. Lombard Street
Baltimore, MD 21224 USA
Information Telephone No. :
410-633-2500
Website Address: www.LFishman.com

24 Hr Emergency Telephone # : **CHEM-TEL: 1-800-255-3924 OR 1-813-248-0585 (call collect)**

SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification per 29 CFR 1910.1200 (OSHA HCS 2012) and HPR (WHMIS 2015)

Not classified as hazardous.

GHS Pictograms

None.

Signal Word

None.

Hazard Statements

None.

Safe Handling Instructions:

Avoid eye and skin contact. It is recommended to use safety glasses and gloves during handling. During installation process, adequate ventilation of the work area should be maintained. Although the adhesive is low VOC, persons who are sensitive to odors or chemicals should avoid the work area during installation. Keep container closed. Do not subject to grinding. Dispose of contents / container in accordance with federal, state, and local laws. Do not allow product to enter drains.

During normal usage of the product as recommended, airborne dusts and mists will not be present. See Section 7 (Handling and Storage) for further details.

Hazards Not Otherwise Classified

None.

% With Unknown Acute Toxicity

Less than 1% by weight of this product consists of ingredients with unknown acute toxicity.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (by weight)
Limestone	1317-65-3	30 – 60
Sepiolite clay	63800-37-3	0.1 – 1.0
Titanium dioxide	13463-67-7	0.1 – 1.0
Crystalline silica, quartz*	14808-60-7	0.1 – 1.0

*Crystalline silica is present as an impurity from the Limestone and clay. It is not intentionally added.

Exact composition of the ingredients is claimed as a trade secret by the manufacturer.

SECTION 4 – FIRST AID MEASURES

General	: Call a doctor if you feel unwell.
Inhalation	: If a worker develops breathing problems while working with this material, remove the worker to fresh air and keep at rest in a position comfortable for breathing.
Skin contact	: Wash with plenty of soap and water. If irritations or symptoms develop, seek medical attention/advice.
Eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
Ingestion	: Rinse mouth. Do NOT induce vomiting. Call a doctor/physician if you feel unwell.
Notes for Physician	: Treat symptomatically.

Signs and symptoms of short-term (acute) exposure

<i>Inhalation</i>	: May cause mild irritation of the nose, throat, mucous membranes, and respiratory tract.
<i>Skin</i>	: Symptoms may include mild redness or itching.
<i>Eyes</i>	: Symptoms may include mild redness, itching, or pain.
<i>Ingestion</i>	: Ingestion of large amounts may cause stomach irritation. May cause nausea, vomiting, and diarrhea.

Effects of long-term (chronic) exposure

: Prolonged skin contact may cause skin irritations..

Indication of need for immediate medical attention or special treatment

: Difficulty breathing persists after removing the person to fresh air.
Any exposure to the eye which causes irritation.

SECTION 5 – FIRE FIGHTING MEASURES

Suitable extinguishing media	: Carbon dioxide, dry chemical powder, alcohol foam or water spray.
Unsuitable extinguishing media	: Water jet may spread the burning material.
Hazardous combustion products	: Carbon monoxide, carbon dioxide, as well as other toxic vapors and gases which are common to thermal degradation of organic compounds.
Special fire-fighting procedures/equipment	: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. After fires have been extinguished, carefully clean all equipment and surfaces exposed to fumes.
Environmental precautions	: Do not allow material to enter drains or contaminate ground water system.
Fire hazards/conditions of flammability	

: Not flammable under normal conditions of use. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.1200, WHMIS 2015)

: Not flammable.

NFPA Rating

: 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health: 1 Flammability 1 Instability 0 Special Hazards: None

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions

: Restrict access to area until completion of clean-up. All persons dealing with clean-up should wear the appropriate chemically protective equipment.

Protective equipment

: Refer to Section 8 on this Safety Data Sheet, EXPOSURE CONTROLS / PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Emergency Procedures

: If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).

US CERCLA Reportable quantity (RQ): None reported.

Methods and materials for containment and cleaning up

: Ventilate area of release. Stop spill or leak at source if safely possible. Contain product with inert absorbent material, preventing it from entering sewer lines or waterways. Gather up spilled material and place in suitable container for later disposal (see Section 13). Residual of product, while still wet, can be cleaned up with warm soapy water. Notify the appropriate authorities as required.

Prohibited materials

: None known.

Environmental precautions

: Do not allow product to enter drains or waterways. Do not allow material to contaminate ground water system.

Reference to other sections

: See Section 13 for disposal information.

SECTION 7 – HANDLING AND STORAGE

Safe handling procedures

: Wear suitable protective equipment during handling. (See Section 8.) Observe good hygiene standards. Use only with adequate ventilation. Wash thoroughly after handling. Avoid contact with eyes, skin, or clothing. Sanding and grinding dusts may be harmful if inhaled. When removing this product from existing flooring (i.e. during a renovation), wear safety goggles and respiratory protection from dust due to blasting, chipping, or mechanically pulverizing. Keep container tightly closed.

Storage requirements

: Store in a cool, dry, well-ventilated area. Store away from heat and open flame. Avoid storing in direct sunlight. Store in original container. Keep tightly closed when not in use. Do not reuse empty container without commercial cleaning or reconditioning.

Incompatible materials

: See Section 10.

Special packaging materials

: Always keep in containers made of the same materials as the supply container.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible Exposure Limits

: No exposure limits have been established for the product itself. Below are exposure limits for the components in the product. Since this product is a paste, airborne dust is not likely when the product is used according to the directions.

Ingredients	CAS #	ACGIH TLV		OSHA PEL	
		TWA	STEL	PEL	STEL
Limestone	1317-65-3	TLV Withdrawn In 2007	N/Av	15 mg/m ³ (Total dust); 5 mg/m ³ (respirable)	N/Av
Sepiolite clay	63800-37-3	10 mg/m ³ (Total dust);	N/Av	5 mg/m ³ (respirable)	N/Av

		5 mg/m ³ (respirable)			
Titanium dioxide	13463-67-7	10 mg/m ³	N/Av	15 mg/m ³	N/Av
Crystalline silica, quartz	14808-60-7	0.025 mg/m ³ (respirable fraction)	N/Av	0.1 mg/m ³ (respirable) (final rule limit)	N/Av

- Engineering Controls** : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. Ventilation should effectively remove and prevent buildup of any vapor generated from the handling of this product.
- Personal Protection Equipment**
- Eye / face protection** : Chemical goggles or safety glasses, as appropriate for the job.
- Skin protection** : Wear gloves which are impervious to the material. Materials such as nitrile rubber or Viton (fluorocarbon rubber) are recommended.
- Body protection** : Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact.
- Respiratory protection** : Under normal conditions of use with adequate ventilation, respiratory protection should not be necessary. If work process generates excessive quantities of vapor or dust, or exposures in excess of any PEL, wear an appropriate organic vapor respirator.
- Site safety equipment** : An eyewash station and safety shower should be made available in the immediate working area.
- General hygiene considerations** : Avoid contact with eyes, skin and clothing. Avoid breathing vapors/dust. Do not eat, drink or smoke when using this product. Upon completion of work, wash hands thoroughly. Remove soiled clothing and wash it thoroughly before reuse. Clean all equipment and clothing at end of each work shift.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

- | | | | |
|---|---------------------|---|--------------------------|
| Physical state | : Paste | Appearance | : Off-white paste |
| Odor | : Mild | Odor threshold | : N/Av |
| pH | : 8.5 – 9.0 | Specific gravity | : 1.39 |
| Boiling point | : N/Av | Coefficient of water/oil distribution | : N/Av |
| Melting/Freezing point | : N/Av | Solubility in water | : Miscible |
| Vapor pressure (mm Hg @ 20°C / 68°F) | : N/Av | Evaporation rate (n-Butyl acetate = 1) | : N/Av |
| Vapor density (Air = 1) | : N/Av | Volatiles (% by weight) | : Approximately 36 – 40% |
| Volatile organic compounds (VOCs) | : 0 g/L SCAQMD 1168 | | |
| Particle size | : N/Av | Flammability classification | : Not flammable |
| Flash point | : >93.3°C (>200°F) | Lower flammable limit (% by vol) | : Not available |
| Flash point method | : Setflash closed | Upper flammable limit (% by vol) | : Not available |
| Auto-ignition temperature | : N/Av | Decomposition temperature | : Not available |
| Viscosity | : N/Av | Oxidizing properties | : Not available |
- Explosion data: Sensitivity to mechanical impact / static discharge**
: Not expected to be sensitive to mechanical impact or static discharge.

SECTION 10 – REACTIVITY AND STABILITY INFORMATION

- Reactivity** : Not reactive.
- Stability** : Stable under the recommended storage and handling conditions prescribed.
- Hazardous reactions** : Hazardous polymerization does not occur.
- Conditions to avoid** : Extreme heat.
- Materials to avoid and incompatibility**
: Strong oxidizing agents; acids.
- Hazardous decomposition products**
: None known, refer to hazardous combustion products in Section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Routes of exposure : Inhalation: YES Skin Absorption: NO Skin and Eyes: Yes Ingestion: YES

Symptoms of exposure : See Section 4.

Calculated Acute Toxicity Estimates for the Product

Inhalation : > 30 mg/L
Oral : > 5000 mg/kg
Dermal : > 3000 mg/kg

Toxicological data : See below for individual ingredient acute toxicity data.

Ingredients	CAS No.	LC50 (4 hr)	LD50	
		Inhalation, rat, mg/L	Oral, rat mg/kg	Dermal, rabbit, mg/kg
Limestone	1317-65-3	N/Av	6,450	N/Av
Crystalline silica, quartz	14808-60-7	N/Av	N/Av	N/Av
Titanium dioxide	13463-67-7	> 6.82	> 24,000	> 10,000
Sepiolite clay	63800-37-3	N/Av	N/Av	N/Av

Skin corrosion or irritation : May cause mild irritation to skin.

Serious eye damage / eye irritation : May cause mild, temporary irritation to eyes.

Respiratory or skin sensitization : None known.

Germ cell mutagenicity : None known.

Carcinogenic status : This product contains Crystalline silica and Titanium dioxide. Crystalline silica (respirable size) is classified as carcinogenic by inhalation by IARC (Group 1), ACGIH (Group A2), NTP (Group 1) and OSHA (OSHA Select carcinogen). Titanium dioxide is classified by IARC as possibly carcinogenic to humans (Group 2B), with inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals. Crystalline silica is a natural impurity in minerals such as limestone and clay. Because the Crystalline silica and Titanium dioxide are only carcinogenic by inhalation, this product is not considered to be a hazard. During normal usage of the product as recommended, airborne dusts will not be present. Do not sand off excess material, following initial application. When removing adhesive from existing buildings (ie. during a renovation), do not mechanically remove under dry conditions (e.g. blasting, chipping, mechanically pulverizing).

Reproductive toxicity : None known.

Specific Target Organ Toxicity, Single Exposure : None known.

Specific Target Organ Toxicity, Repeated Exposure : None known.

Aspiration hazard : None known.

Additional information : N/Av

SECTION 12 – ECOLOGICAL INFORMATION

Environmental effects : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity : No data available.

Biodegradability : No data available.

Bioaccumulative potential : No data available.

Mobility in soil : No data available.

PBT and vPvB assessment : No data available.

Other adverse effects : No data available.

SECTION 13 – DISPOSAL CONSIDERATION

- Handling for disposal** : Handle waste according to recommendations in Section 7.
- Methods of disposal** : You must test your waste using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.
- Packaging** : Handle contaminated packaging in the same manner as the product.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 – TRANSPORTATION INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	None	This product is not regulated according to Canadian TDG regulations.	None	None	None
TDG Additional Information	None				
49 CFR/DOT	None	This product is not regulated according to US DOT regulations.	None	None	None
49 CFR/DOT Additional Information	None				

SECTION 15 – REGULATORY INFORMATION

Canadian Information:

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR). This SDS contains all of the information required by the HPR.

Canadian Environmental Protection Act (CEPA) information: All ingredients appear on the Domestic Substances List (DSL).

US Federal Information:

TSCA: All ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): None reported.

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Not Hazardous.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This product is not subject to SARA notification requirements, since it does not contain any Toxic Chemical constituents above *de minimus* concentrations.

U.S. State Right To Know Laws

California Proposition 65: This product contains chemicals known to the State of California to cause cancer and/or reproductive harm.

Other State Right to Know Laws:

Present on the State RTK List?	CAS No.	CA	MA	MN	NJ	NY	PA	RI
Limestone	1317-65-3	No	YES	No	YES	No	YES	YES
Titanium dioxide	13463-67-7	No	YES	YES	YES	No	YES	YES
Crystalline silica, quartz*	14808-60-7	No	YES	YES	YES	No	YES	YES

SECTION 16 – OTHER INFORMATION

HMIS Rating : * - Chronic Hazard 0 - Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe
Health: 1 Flammability 1 Physical Hazard: 0 PPE: Gloves, safety glasses

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substances List
EPA: Environmental Protection Agency
GHS: Globally Harmonized System
HPR: Hazardous Products Regulations
IARC: International Agency for Research on Cancer
Inh: Inhalation
N/Av: Not Available
N/Ap: Not Applicable
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

Disclaimer of Liability

The Information presented herein is supplied as a guide to those who handle or use this product and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive. The manner and conditions of use and handling may involve other and additional considerations. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.

No warranty of any kind is given or implied. ARDEX Engineered Cements and Fishman Flooring Solutions will not be liable for any damages, losses, injuries or consequential damages which may result from the use or reliance on any information contained herein.

Warranty : 1 Year Limited Manufacturer-Materials Warranty
Liability is limited to replacement of product to original customer

(Please refer to Manufacturer's Warranty for details and L. Fishman & Son, Inc. / Fishman Flooring Solutions Disclaimer of Implied Warranties – copies available upon request.)

Prepared for:
Fishman Flooring Solutions
6301 E. Lombard Street
Baltimore, MD 21224 USA
Information Telephone No.
410-633-2500
Website Address: www.LFishman.com

Revision date: : 28-Aug-2015

End of Document

MATERIAL SAFETY DATA SHEET

NFPA RATING: Health = 2 Flammability = 3 Reactivity = 0
HMIS RATING: Health = 2 Flammability = 3 Reactivity = 0

SECTION I -- IDENTITY AND MANUFACTURER'S INFORMATION (11SAM1028A)**Manufacturer's Name:** HILLYARD INDUSTRIES**Product Name:** Hillyard Foaming Hand Sanitizer**Address:** 302 North Fourth Street**Date Prepared:** December 1, 2011 (New)

St. Joseph, MO 64501

Prepared by: Regulatory Affairs Department

Emergency Telephone No.: (800)-424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)

Other information calls: (816) 233-1321 (Ext. 8285)<http://www.hillyard.com>***SECTION II -- INGREDIENTS/IDENTITY INFORMATION****Components**

(Specific Chemical Identity: Common Name(s))	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Denatured Ethyl Alcohol	64-17-5	1000 ppm	1000 ppm	N/A	62

N/A = Not Applicable N.E. = Not Established N/D = Not Determined N/L = Not Listed

SECTION III -- PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point:	178°F	Specific Gravity (H₂O = 1):	25°C = 0.8863	Density =	7.38 lb/gl
Vapor Pressure (mm Hg.):	30.84	Percent Volatile by Volume (%):	96 – 98 %		
Vapor Density (AIR = 1):	1.32	Evaporation Rate (ethyl ether = 1):	slower than 1		
Solubility in Water:	complete	Appearance and odor:	Clear, slightly yellow liquid with pleasant odor		
pH (concentrate) =	6.0 - 7.0				

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA**Flash point:** 72°F **Flammable Limits:** LEL = N/D UEL = N/D**Extinguishing Media:** Carbon dioxide, Alcohol-type foam, Dry Chemical**Special Fire Fighting Procedures:** NIOSH approved respirator should be worn by firefighters. Use water spray to cool equipment and to disperse vapors. Alcohol flames may be difficult to see because they are virtually colorless.**Unusual Fire and Explosion Hazards:** Vapors from this product may travel or move by air currents to an ignition source and flash back.**SECTION V -- PHYSICAL HAZARDS****Stability:** Stable **Conditions to Avoid:** Excessive heat**Incompatibility (Materials to Avoid):** Heat, sparks and open flames. Oxidizing materials can cause vigorous reaction.**Hazardous Decomposition Products or Byproducts:** None known to manufacturer.**Hazardous Polymerization:** Will not occur.**SECTION VI -- HEALTH HAZARD DATA****Routes of entry:** Inhalation Skin Ingestion X**HEALTH HAZARDS (1. Acute and 2. Chronic)**

1. May cause eye irritation. Can be harmful if swallowed. Ingestion may cause diarrhea, distention, and/or vomiting.
2. None known to Hillyard.

Chemical listed as Carcinogen or Potential Carcinogen:**National Toxicology Program =** No **I.A.R.C. Monographs =** No **OSHA =** No

This product has no carcinogens listed by IARC, NTP, or regulated by OSHA

Signs and Symptoms of Exposure: **If in eyes:** Burning, watering, redness. **If swallowed:** Possible gastrointestinal irritation or disturbance. **If vapors are inhaled:** Possible giddiness or loss of consciousness.**Medical Conditions Generally Aggravated by Exposure:** None known to manufacturer.

SECTION VI -- HEALTH HAZARD DATA continued:

Emergency and First Aid Procedures: **In case of eye contact:** Immediately flush eyes with plenty of cool water for at least 15 minutes. If irritation persists, get medical attention. **If swallowed:** If patient is conscious and alert, dilute by drinking large quantities of water. Allow vomiting to occur and then get medical attention. Never give anything by mouth to an unconscious person.

SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: **Small Spills:** (less than 8 oz.) May be washed down a drain with lots of water or cleaned up and disposed of into a sanitary sewer system. **Large Spills:** (more than 8 oz.) Should be contained and collected by absorption or vacuuming then disposed of properly.

Waste Disposal Method: This product is considered a RCRA Hazardous Waste (due to flammability) as identified in Federal Regulations 40 CFR 261. Dispose of product by using in accordance with label directions or in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

Precautions To Be Taken In Handling And Storing: Do not contaminate water, food or feed. Do not reuse empty containers. Keep containers clean and closed.

Other Precautions: Keep out of reach of children. Store at ambient temperatures. Avoid all ignition sources.

SECTION VIII -- CONTROL MEASURES

Respiratory Protection (Specify Type): Not applicable.

Engineering Controls: Mechanical Ventilation (General): Normally sufficient. **Ventilation:** Not required for normal use.

Local Exhaust = N/A **Mechanical (General) =** N/A **Special =** N/A **Other =** N/A

Protective Gloves: N/A **Eye Protection:** Avoid eye contact

Other Protective Clothing or Equipment: Not required.

Work / Hygienic Practices: Do not get into eyes. May be harmful if swallowed. Protect food and drink from contamination by product.

SECTION IX - TRANSPORTATION INFORMATION

Applicable regulations: 49 CFR = 172.101 **IMCO =** no; **IATA =** no

Proper shipping name: Packages > 1000M: Ethanol Solution,
Packages < 1000ml or less: ORM-D

UN No.: UN1170 if > 1000M **Limited Qty.:** not applicable **Hazard Class:** 3 **PG:** II

Labels required: Flammable **DOT Exception:** 1000ml or less: ORM-D

EPA Hazardous waste number / code: not listed

Hazardous waste characteristics: not listed

Ignitability = applicable **Corrosivity =** not applicable; **Reactivity =** not applicable

DISCLAIMER OF WARRANTIES

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY NATURE ARE MADE WITH RESPECT TO THE PRODUCT(S) OR INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET.

The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate.

THE BUYER OR USER ASSUMES ALL RISKS ASSOCIATED WITH THE USE, MISUSE OR DISPOSAL OF THIS PRODUCT. THE BUYER OR USER IS RESPONSIBLE TO COMPLY WITH ALL FEDERAL, STATE OR LOCAL REGULATIONS CONCERNING THE USE, MISUSE OR DISPOSAL OF THESE PRODUCTS.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 24.00

Revision Date: June 4, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Agar-Agar

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

Product should be treated as a chemical and is not for consumption as it has been stored with other nonfood-grade chemicals.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Agar-agar	9002-18-0	(C ₁₂ H ₁₈ O ₉) _n	~120,000	
Synonyms: Agar-agar gum, Bengal gum				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Clean up spill. Dispose in the trash. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic Miscellaneous.
Moisture sensitive. Store in a cool, dry place within a Flinn Chem-Saf™ bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Avoid contact with eyes. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Tan colored powder. Odorless.

Soluble: Forms a gel with boiling water.

Not a microbiological media as is. Must add nutrients.

To prepare agar gel: Mix 15 grams per 1 liter.

SECTION 10 — STABILITY AND REACTIVITY

Stable nonhazardous substance. Avoid contact with strong oxidizers.

Shelf life: Good, if stored properly. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 11 g/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (232-658-1).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: June 4, 2014

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

MSDS #: 24.50

Revision Date: February 24, 2003

Section 1 — Chemical Product and Company Identification

Agarose, Low EEO

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Agarose, low EEO

Synonym: Agar

CAS#: 9012-36-6

Section 3 — Hazards Identification

Buff colored, odorless powder.

Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-0

Exposure-0

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash with soap and water.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable solid.

NFPA CODE

None

Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic Miscellaneous.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

Agarose, Low EEO

MSDS #: 24.50

Revision Date: February 24, 2003

Section 9 — Physical and Chemical Properties

Buff colored, odorless powder.
Solubility: Soluble in boiling water.

Section 10 — Stability and Reactivity

Shelf life: Good if kept dry.

Section 11 — Toxicological Information

Acute effects: N.A.	ORL-RAT LD50: N.A.
Chronic effects: N.A.	IHL-RAT LC50: N.A.
Target organs: N.A.	SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Flinn--"Your Safer Source for Chemicals"

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

1. Product and Company Identification

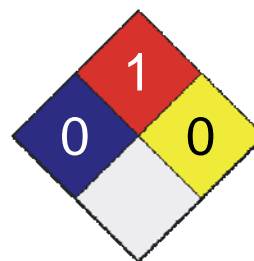
Product Name AIR WICK® Air Freshener (Aerosols All Scents)
CAS # Mixture
This MSDS is designed for workplace employees, emergency personnel and for other conditions and situations where there is a greater potential for large-scale or prolonged exposure, in accordance with requirements of the U.S. Government's Occupational Safety and Health Administration (OSHA).
This MSDS is not applicable for consumer use of our products. For consumer use, all precautionary and first aid language is provided on the product label in accordance with the applicable government regulation.

Air freshener Product Use

Distributed by Reckitt Benckiser
 Morris Corporate Center IV
 399 Interpace Parkway
 P.O. Box 225
 Parsippany, NJ 07054-0225
 In Case of Emergency: 1-800-338-6167
 Transportation Emergencies: 24 Hour Number:
 North America: CHEMTREC: 1-800-424-9300
 Outside North America: 1-703-527-3887

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 0
Flammability	1
Physical Hazard	0
Personal Protection	B



2. Hazards Identification

Emergency overview CAUTION
 EYE IRRITANT. Prolonged or frequent skin contact may cause an allergic reaction.
 CONTENTS UNDER PRESSURE.
 DO NOT spray towards face. Avoid contact with eyes and skin. CONTAINER MAY EXPLODE IF HEATED. Do not puncture or incinerate container. DO NOT expose to heat or store at temperatures above 120°F (49°C) as the container may burst.

KEEP OUT OF REACH OF CHILDREN AND PETS.

Potential short term health effects

Routes of exposure

Eyes

Eye, Skin contact, Inhalation.
 None expected during normal conditions of use.
 May cause eye irritation upon direct contact with the eyes.

Skin

None expected during normal conditions of use.
 Prolonged or frequent skin contact may cause an allergic reaction.

Inhalation

None expected during normal conditions of use.
 Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Ingestion

Health injuries are not known or expected under normal use.

Target organs

Eyes.

Chronic effects

The finished product is not expected to have chronic health effects.

Signs and symptoms

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

OSHA Regulatory Status

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential environmental effects

This product has not been tested.

3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Propane	74-98-6	7 - 13
Butane	106-97-8	10 - 30
Ethane, 1,1-difluoro-	75-37-6	10 - 30

4. First Aid Measures

First aid procedures

Eye contact If in eyes, IMMEDIATELY rinse eyes with plenty of water. Remove any contact lenses and continue rinsing eyes for at least 15 minutes. If irritation persists, get medical attention.

Skin contact If on skin, wash with soap and water. If Irritation develops, get medical attention.

Inhalation Move to fresh air in case of accidental inhalation of vapors.

Ingestion Rinse mouth with water and drink afterwards plenty of water. DO NOT INDUCE VOMITING.

Notes to physician Treat patient symptomatically.

General advice Do not puncture or incinerate container. Keep away from sources of ignition. No smoking. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

NOTE TO PARENTS: Intentional misuse by deliberately concentrating and inhaling aerosol products may be harmful or fatal. Help stop inhalation abuse; for information visit www.inhalant.org.

5. Fire Fighting Measures

Flammable properties Non-flammable aerosol by flame projection test.

NFPA AEROSOL LEVEL: Flammability Rating 1, per NFPA 30B

Extinguishing media

Suitable extinguishing media Dry chemical. Foam.

Unsuitable extinguishing media Water. Water spray.

Protection of firefighters

Specific hazards arising from the chemical Contents under pressure. Pressurized container may explode when exposed to heat or flame. Cool containers with flooding quantities of water until well after fire is out.

Protective equipment for firefighters Firefighters should wear full protective clothing including self contained breathing apparatus.

Hazardous combustion products May include and are not limited to: Oxides of carbon.

Explosion data

Sensitivity to mechanical impact Not available

Sensitivity to static discharge Not available

6. Accidental Release Measures

Personal precautions Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep unnecessary personnel away.

Environmental precautions Prevent further leakage or spillage if safe to do so.
Do not contaminate water.
Do not allow material to contaminate ground water system.
Advise authorities if product has penetrated drains, sewers or water pipes.

Methods for containment Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Before attempting clean up, refer to hazard data given above. Remove sources of ignition. Although the chance of a significant spill or leak is unlikely in aerosol containers, in the event of such an occurrence, absorb spilled material with a non-flammable absorbent such as sand or vermiculite.

7. Handling and Storage

Handling

Ensure adequate ventilation.
DO NOT spray towards face.
Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C (120°F). Do not pierce or burn after use. Keep away from all sources of ignition. Fires involving aerosols with flammable contents are severe and can spread quickly. Warehouses or stores containing aerosols should therefore be separated from other areas by a fire resistant construction. Stores should be well ventilated. The natural ventilation in a large open warehouse building will normally be suitable.
Do not spray on a naked flame or any other incandescent material.
Use good industrial hygiene practices in handling this material.
When using do not eat or drink.
Wash hands before breaks and immediately after handling the product.

Storage

DO NOT expose to heat or store at temperatures above 120°F (49°C) as the container may burst.
Do not puncture or incinerate container.
CONTAINER MAY EXPLODE IF HEATED.
Keep away from heat, open flames or other sources of ignition.
Store in a cool place.
Keep out of reach of children.

NOTE TO PARENTS: Intentional misuse by deliberately concentrating and inhaling aerosol products may be harmful or fatal. Help stop inhalation abuse; for information visit www.inhalant.org.

8. Exposure Controls / Personal Protection

Exposure limits

Ingredient(s)

Exposure Limits

Butane

ACGIH-TLV
TWA: 1000 ppm
OSHA-PEL
Not established

Ethane, 1,1-difluoro-

ACGIH-TLV
Not established
OSHA-PEL
Not established

Propane

ACGIH-TLV
TWA: 1000 ppm
OSHA-PEL
TWA: 1000 ppm

Engineering controls

Provide adequate ventilation.

Personal protective equipment

Consult the product label for special protection or precautions that have been identified for using this product under directed consumer use conditions. The following recommendations are given for workplace employees, emergency personnel and for other conditions and situations where there is a greater potential for large-scale or prolonged exposure.

Eye / face protection

Not required under normal use conditions. Emergency responders should wear full eye and face protection.

Hand protection

No special requirements under normal use conditions.
Emergency responders should wear impermeable gloves.

Skin and body protection

No special requirements under normal use conditions.
Prolonged or frequent skin contact may produce an allergic reaction in some individuals.

Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of vapours generated by this product during a spill or other clean-up operations.

General hygiene considerations

Avoid contact with skin, eyes and clothing.
Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.

9. Physical and Chemical Properties

Appearance	Aerosol.
Color	Clear
Form	Misty spray
Odor	Characteristic
Odor threshold	Not available
Physical state	Gas
pH	Not available
Freezing point	Not available
Boiling point	Not available
Pour point	Not available
Evaporation rate	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Flammability limits in air, lower, % by volume	Not available
Flammability limits in air, upper, % by volume	Not available
Vapor pressure	Not available
Vapor density	Not available
Specific gravity	Not available
Octanol/water coefficient	Not available

10. Stability and Reactivity

Reactivity	This product may react with oxidizing agents.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Keep away from open flames, hot surfaces and sources of ignition. Protect from sunlight and do not expose to temperatures exceeding 50°C (120°F). Extremes of temperatures can occur in cars and near ovens and fireplaces. Do not place in contact with hot surfaces or near naked flames. Do not pierce or burn after use. Do not spray on a naked flame, onto or near a fire, or any incandescent material such as an electric fire. Aerosol containers are unstable at temperatures above 49°C (120.2°F).
Incompatible materials	Caustics. Oxidizers. Acids.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
Butane	Not available
Ethane, 1,1-difluoro-	> 64000 ppm rat
Propane	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
Butane	Not available
Ethane, 1,1-difluoro-	1500 mg/kg rat
Propane	Not available
Effects of acute exposure	
Eye	None expected during normal conditions of use. May cause eye irritation upon direct contact with the eyes.
Skin	None expected during normal conditions of use. Prolonged or frequent skin contact may cause an allergic reaction.
Inhalation	None expected during normal conditions of use. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.
Ingestion	Health injuries are not known or expected under normal use.
Sensitization	The finished product is not expected to have chronic health effects.
Chronic effects	The finished product is not expected to have chronic health effects.
Carcinogenicity	The finished product is not expected to have chronic health effects.
Mutagenicity	The finished product is not expected to have chronic health effects.
Reproductive effects	The finished product is not expected to have chronic health effects.
Teratogenicity	The finished product is not expected to have chronic health effects.
Name of Toxicologically Synergistic Products	Not available

12. Ecological Information

Ecotoxicity	This product has not been tested.
Persistence / degradability	Not available
Bioaccumulation / accumulation	Not available
Mobility in environmental media	Not available
Environmental effects	Not available
Aquatic toxicity	Not available
Partition coefficient	Not available
Chemical fate information	Not available

13. Disposal Considerations

Disposal instructions	Dispose in accordance with all applicable regulations. Container disposal: Empty containers may be included with domestic refuse for disposal to a landfill. This container may also be recycled in communities where aerosol container recycling is available. Before offering for recycling, empty the can or use the product according to the label instructions.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

U.S. Department of Transportation (DOT)

UN 1950, Aerosols, Class 2.1, Limited Quantity

Transportation of Dangerous Goods (TDG - Canada)

UN 1950, Aerosols, Class 2.1, Limited Quantity

IMDG (Marine Transport)

UN 1950, Aerosols, Class 2.1, Limited Quantity

IATA/ICAO (Air)

UN 1950, Aerosols, Flammable, Class 2.1

15. Regulatory Information

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

US Federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - Yes
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Clean Air Act (CAA) Not available

Clean Water Act (CWA) Not available

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances

Butane 106-97-8 Present

U.S. - Massachusetts - Right To Know List

Butane 106-97-8 Present

Ethane, 1,1-difluoro- 75-37-6 Present

Propane 74-98-6 Present

U.S. - Minnesota - Hazardous Substance List

Butane 106-97-8 Present

Propane 74-98-6 Simple asphyxiant

U.S. - New Jersey - Right to Know Hazardous Substance List

Butane 106-97-8 sn 0273

Ethane, 1,1-difluoro- 75-37-6 sn 0715

Propane 74-98-6 sn 1594

U.S. - Pennsylvania - RTK (Right to Know) List

Butane 106-97-8 Present

Propane 74-98-6 Present

U.S. - Rhode Island - Hazardous Substance List

Butane 106-97-8 Toxic; Flammable

Propane 74-98-6 Toxic; Flammable

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer

This product should only be used as directed on the label and for the purpose intended. To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Further information

AIR WICK® 4-In-1 Air Freshener - Apple Cinnamon Medley, 8 oz - 0.188360v2.0
AIR WICK® 4-In-1 Air Freshener - Cool Linen & White Lilac, 8 oz - 0192143v2.0
AIR WICK® 4-In-1 Air Freshener - Fresh Waters, 8 oz - 0192143v2.0
AIR WICK® 4-In-1 Air Freshener - Lavender & Chamomile, 8 oz - 0121604v2.0
AIR WICK® 4-In-1 Air Freshener - Magnolia & Cherry Blossom, 8 oz - 0188398v2.0
AIR WICK® 4-In-1 Air Freshener - Papaya & Mango, 8 oz - 0188364v2.0
AIR WICK® 4-In-1 Air Freshener - Rain Garden, 8 oz - 0188387v2.0
AIR WICK® 4-In-1 Air Freshener - Sparkling Citrus, 8 oz - 0188375v2.0
AIR WICK® 4-In-1 Air Freshener - Vanilla Indulgence, 8 oz - 0188341v2.0
AIR WICK® Air Freshener - Serene Waters (National Parks - Glacier Bay), 8 oz - 0192143v2.0
AIR WICK® Air Freshener - Tropical Sunset (National Parks - Hawaii), 8 oz - 0.188364v2.0
AIR WICK® Air Freshener - Vanilla Sugar Cookies (Festive Moments), 8 oz - 0299270v2.0
AIR WICK® Air Freshener - Warm Apple Pie (Festive Moments), 8 oz - 0340663v1.0

Issue date

26-Sep-2012

Effective date

15-Sep-2012

Prepared by

Reckitt Benckiser Regulatory Department 800-333-3899

Other information

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

AIRKEM PROFESSIONAL PRODUCTS DIV. OF ECOLAB INC. -- PREP PAK -- 7930-01-418-1102

===== Product Identification =====

Product ID:PREP PAK
MSDS Date:03/24/1995
FSC:7930
NIIN:01-418-1102
MSDS Number: BZHYL
=== Responsible Party ===
Company Name:AIRKEM PROFESSIONAL PRODUCTS DIV. OF ECOLAB INC.
Address:ECOLAB CENTER
City:ST. PAUL
State:MN
ZIP:55102
Country:US
Info Phone Num:800-247-5362
Emergency Phone Num:800-328-0026
CAGE:89044

===== Contractor Identification =====

Company Name:AIRKEM PROFESSIONAL PRODUCTS/DIV OF ECOLAB INC
Address:370 N WABASHA STREET
Box:City:ST. PAUL
State:MN
ZIP:55102-1307
Country:US
Phone:800-328-0026
CAGE:89044

===== Composition/Information on Ingredients =====

Ingred Name:SODIUM CARBONATE (SODA ASH)
CAS:497-19-8
RTECS #:VZ4050000
Fraction by Wt: 22.0%
Other REC Limits:NONE RECOMMENDED

Ingred Name:CITRIC ACID,
CAS:77-92-9
RTECS #:GE7350000
Other REC Limits:NONE RECOMMENDED

===== Hazards Identification =====

Routes of Entry: Inhalation:NO Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:EYES: IRRITATION. SKIN: IRRITATION
DEPENDING ON DEGREE OF OVEREXPOSURE. INGESTION: IRRITATION, NAUSEA,
STOMACH DISTRESS.

===== First Aid Measures =====

First Aid:EYES: FLUSH IMMEDIATELY W/PLENTY COOL RUNNING WATER. REMOVE
CONTACTS. FLUSH AGAIN. SKIN: FLUSH W/WATER THEN WASH W/SOAP &
WATER. INGESTION: RINSE MOUTH. DRINK 1 OR 2 LARGE GLASSES WATER. DO
NOT INDUCE VOMITING. IF IRRITATION/DISCOMFORT PERSISTS, CALL DR.

===== Fire Fighting Measures =====

Fire Fighting Procedures:PRODUCT DOES NOT SUPPORT COMBUSTION.
Unusual Fire/Explosion Hazard:NO SPECIAL FIRE HAZARDS.

===== Accidental Release Measures =====

Spill Release Procedures:PICK UP WITHOUT RAISING DUST. WASH AREA
W/WATER.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:NONE
Ventilation:NONE
Protective Gloves:NONE
Eye Protection:NONE
Other Protective Equipment:NONE
Work Hygienic Practices:NO REQUIREMENTS BEYOND STANDARD INDUSTRIAL
HYGIENE PRACTICES.
Supplemental Safety and Health
NK

===== Physical/Chemical Properties =====

pH:4-5
Solubility in Water:COMPLETE
Appearance and Odor:LIGHT REDDISH-PURPLE POWDER IN PVA PACKET, NO ODOR.

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES
DON'T MIX W/CHLORINATED DETERGENTS/SANITIZERS; WILL CAUSE HAZARDOUS
VAPORS.
Stability Condition to Avoid:DO NOT HANDLE W/WET HANDS.. DON'T MIX
W/ANYTHING BUT WATER.

===== Disposal Considerations =====

Waste Disposal Methods:IN ACCORDANCE W/FEDERAL, STATE, LOCAL
REGULATIONS.

Disclaimer (provided with this information by the compiling agencies):
This information is formulated for use by elements of the Department
of Defense. The United States of America in no manner whatsoever,
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document should seek competent professional advice to verify and
assume responsibility for the suitability of this information to their
particular situation.



COLGATE-PALMOLIVE Company
MATERIAL SAFETY DATA SHEET

This industrial Material Safety Data Sheet is not intended for consumers and does not address consumer use of the product. For information regarding consumer applications of this product, refer to the product label.

Ajax Dishwashing Liquid Traditional

Effective Date: May 17, 2006

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COLGATE-PALMOLIVE COMPANY 300 Park Avenue New York NY 10022	EMERGENCY TELEPHONE NUMBER: For emergency involving spill, leak, fire, exposure or accident, call CHEMTREC (800) 424-9300, day or night
PRODUCT NAME: Ajax Dishwashing Liquid Traditional-Ruby Red Grapefruit, Lemon-Yellow, Orange Dishwashing Liquid and Anti-Bacterial Hand Soap, Baking Soda, Lavender	For MEDICAL EMERGENCIES involving this product call (888)489-3861
CAS NUMBER: Not applicable – product is a mixture	
GENERAL USE: Formulated liquid detergent for hand dishwashing.	

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA-REGULATED COMPONENTS (present at a concentration of > or = 1%):					The following components, present at a concentration of > or = 0.1%, are listed as carcinogens or potential carcinogens by either the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or OSHA:
Component	CAS#	%	PEL	TLV	
Ethanol	64-17-5	1-5	1000 ppm	1000 ppm	
Not Applicable					

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYE CONTACT: Causes eye irritation on direct contact.

SKIN CONTACT: May cause skin irritation on prolonged or repeated contact.

INGESTION: May be harmful if swallowed in large quantities.

INHALATION: No adverse effects expected.

4. FIRST AID MEASURES

EYE CONTACT: Flush eyes with large amounts of water for 15 minutes. Get medical attention if irritation persists.

SKIN CONTACT: Rinse area with plenty of water. Get medical attention if irritation persists.

INGESTION: Drink 1-2 glasses of water. Get medical attention.

INHALATION: Not Applicable.

5. FIRE FIGHTING MEASURES

Flash Point: Not Applicable

Extinguishing Media: Water spray, all-purpose dry chemical, CO₂.

SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus and protective clothing should be worn when fighting chemical fires.

6. ACCIDENTAL RELEASE MEASURES

Cover with inert, absorbent material and remove to disposal container. Spill area may be slippery. Flush with plenty of water.

7. HANDLING AND STORAGE

Store in a tightly closed container in a cool, dry, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONTROLS: Avoid eye and skin contact.

PROTECTIVE CLOTHING: The use of safety goggles and protective gloves is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid
Specific gravity @20C:	1.03 +/- 0.02
pH:	6.5—7.3

10. STABILITY AND REACTIVITY

GENERAL: This product is stable. Hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS: None known.

HAZARDOUS DECOMPOSITION: None known.

11. TOXICOLOGICAL INFORMATION

This product has not been tested as a whole. However, this formula was reviewed by expert toxicologists in the Product Safety Assurance Department of Colgate-Palmolive and is determined to be safe for its intended use. This review has taken into consideration available safety-related information including information on individual ingredients, similar ingredients, similar formulas and potential ingredient interactions. This review is a component of the hazard determination used to prepare the statements in Section 3 of the MSDS.

12. ECOLOGICAL INFORMATION

Not Available

13. DISPOSAL CONSIDERATIONS

Any disposal practice must be in compliance with local, state, and federal laws and regulations (contact local or state environmental agency for specific rules). Do not dump into sewers, any body of water or onto the ground.

14. TRANSPORTATION

Not regulated as a DOT hazardous material.

15. REGULATORY INFORMATION

RCRA (40 CFR 261, Subpart D): Not Applicable

CLEAN WATER ACT:

Contains sodium dodecylbenzene sulfonate and sulfuric acid; Lavender and Lemon-Yellow variants contain sodium bisulfite which are Section 311 materials.

CLEAN AIR ACT:

Contains ethanol and methanol which are Section 111 materials. Methanol is also a Section 112 material.

SARA:

Sections 301-304 (Threshold planning quantity - TPQ) 40 CFR 355: The threshold planning quantity for sulfuric acid is 1,000 lbs. The threshold planning quantity for hydrogen peroxide is 1,000 lbs. (Lavender and Lemon-Yellow variants)

Section 313 (Toxic chemical release reporting) 40 CFR 372: The following chemicals must be reported under SARA 313: Not Applicable

CERCLA: Section 102 (Reportable Quantity - RQ) 40 CFR 302:

The Reportable Quantity (RQ) for Ruby Red Grapefruit and Orange Antibacterial variants to the environment is 200,000 lbs. based on the presence of sodium dodecylbenzene sulfonate (0.5%). Releases greater than or equal to 200,000 lbs. must be reported to the National Response Center (NRC) immediately: 800-424-8802
The Reportable Quantity (RQ) for Lemon-Yellow variant to the environment is 33,333 lbs. based on the presence of sodium dodecylbenzene sulfonate (3%). Releases greater than or equal to 33,333 lbs. must be reported to the National Response Center (NRC) immediately: 800-424-8802.

The Reportable Quantity (RQ) for Baking Soda and Lavender variants to the environment is 20,000 lbs. based on the presence of sodium dodecylbenzene sulfonate (5%). Releases greater than or equal to 20,000 lbs. must be reported to the National Response Center (NRC) immediately: 800-424-8802

New Jersey Right to Know Hazardous Substance List:

This product contains the following components subject to reporting requirements: Sodium dodecylbenzene sulfonate, ethanol, methanol, sulfuric acid; FD&C Blue No. 1 (Baking Soda variant); hydrogen peroxide and sodium bisulfite (Lavender and Lemon-Yellow variants); BHT (Lavender variant)

Pennsylvania Hazardous Substance List:

This product contains the following components subject to reporting requirements: Sodium dodecylbenzene sulfonate, ethanol, methanol, sulfuric acid; hydrogen peroxide, sodium sulfate, and sodium bisulfite (Lavender and Lemon-Yellow variants); BHT (Lavender variant)

Massachusetts Substance List:

This product contains the following components subject to reporting requirements: Sodium dodecylbenzene sulfonate, ethanol, methanol, sulfuric acid; FD&C Blue No. 1 (Baking Soda variant); hydrogen peroxide, sodium sulfate, and sodium bisulfite (Lavender and Lemon-Yellow variants); BHT (Lavender variant)

Canada: Workplace Hazardous materials Information System (WHMIS)-listed material. This product contains the following components subject to reporting requirements: Sodium dodecylbenzene sulfonate, ethanol

TSCA Section 8(b) Inventory Status: All ingredients in this product are listed on the TSCA Inventory or are not required to be listed on the TSCA Inventory.

16. OTHER INFORMATION

Effective Date: May 17, 2006

Supersedes MSDS dated March 28, 2006

MSDS Status: Revised Sections 9, 15

The information on this sheet is limited to the material identified and is believed by the Colgate-Palmolive Company to be correct based on its knowledge and information as of the date noted. Colgate makes no representation, guarantee or warranty, expressed or implied, as to the accuracy, reliability or completeness of the information and assumes no responsibility for injury, damage or loss resulting from the use of the material.

Ajax Institutional

COLGATE-PALMOLIVE -- INSTITUTIONAL AJAX CLEANER WITH CHLORINE BL - SCOURING POWDER

MATERIAL SAFETY DATA SHEET

NSN: 7930009856902

Manufacturer's CAGE: 86223

Part No. Indicator: B

Part Number/Trade Name: INSTITUTIONAL AJAX CLEANER WITH CHLORINE BL

General Information

Item Name: SCOURING POWDER

Company's Name: COLGATE-PALMOLIVE CO

Company's Street: 101 NORTH SUMMIT STREET

Company's City: TENAFLY

Company's State: NJ

Company's Country: US

Company's Zip Code: 07670

Company's Emerg Ph #: 412-692-5596/412-692-5596 (MEDICAL)

Company's Info Ph #: 201-878-7533

Record No. For Safety Entry: 005

Tot Safety Entries This Stk#: 006

Status: SM

Date MSDS Prepared: 01JUL90

Safety Data Review Date: 18JUN92

Supply Item Manager: GSA

Ajax Institutional

MSDS Serial Number: BNRRW

Hazard Characteristic Code: N/

Unit Of Issue: CN

Unit Of Issue Container Qty: 14 OZ CN

Type Of Container: METAL

Net Unit Weight: 14 OZ

Ingredients/Identity Information

Proprietary: NO

Ingredient: SILICA (SI02 QUARTZ)

Ingredient Sequence Number: 01

Percent: 90

NIOSH (RTECS) Number: VV7330000

CAS Number: 14808-60-7

OSHA PEL: SEE TABLE Z3

ACGIH TLV: 0.1 MG/M3 RDUST;9293

Other Recommended Limit: NONE SPECIFIED

Physical/Chemical Characteristics

Appearance And Odor: FINE WHITE HEAVY POWDER, FAINT SOAPY ODOR.

Solubility In Water: 10%

pH: 10.7 *

Ajax Institutional

Fire and Explosion Hazard Data

Flash Point: N/K *(1% SOLUTN)

Extinguishing Media: CO2, FOAM, DRY CHEMICAL.

Special Fire Fighting Proc: SELF-CONTAINED BREATHING APPARATUS AND
PROTECTIVE CLOTHING SHOULD BE WORN WHEN FIGHTING CHEMICAL FIRES.

Unusual Fire And Expl Hazrds: LOW LEVELS OF CHLORINE GAS COULD BE RELEASED
WHEN POWDER IS EXPOSED TO FLAMES OR WATER.

Reactivity Data

Stability: YES

Materials To Avoid: DO NOT MIX WITH AMMONIA, DO NOT USE ON SILVER.

Hazardous Decomp Products: CHLORINE--ONLY IF A LARGE QUANTITY (PALLET
LOADS) IS EXPOSED TO FLAMES OR WATER.

Hazardous Poly Occur: NO

Health Hazard Data

Route Of Entry - Inhalation: YES

Route Of Entry - Skin: YES

Route Of Entry - Ingestion: YES

Health Haz Acute And Chronic: INGESTION: NAUSEA, VOMITING, AND DIARRHEA.

Ajax Institutional

EYES: EYE IRRITANT UPON DIRECT CONTACT. SKIN: MAY CAUSE SKIN IRRITATION UPON PROLONGED CONTACT. INHALATION: NONE UNDER NORMAL USE. PROLONGED INHALATION BY UNORTHODOX USE (NON-WETTED) OR ABUSE (SNIFFING) COULD PRODUCE LUNG DISEASE (SILICOSIS).

Carcinogenicity - NTP: NO

Carcinogenicity - IARC: YES

Carcinogenicity - OSHA: NO

Explanation Carcinogenicity: MIXTURE CONTAINS SILICA WHICH IS LISTED AS CARCINOGENS OR POTENTIAL CARCINOGENS AT CONC GREATER THAN 0.1%.

Med Cond Aggravated By Exp: ASTHMA, BRONCHITIS OR OTHER LUNG CONDITIONS CAN BE AGGRAVATED BY INHALATION OF FINE PARTICULATES.

Emergency/First Aid Proc: INGEST: IF EATEN/DRUNK--YOU MAY THROW UP. DRINK SIPS OF WATER/MILK. IF VOMIT CONTINUES, CALL POISON CTR/DR. EYES: IRRIT. FLUSH W/WATER 15 MIN. IF IRRIT PERSISTS, CALL POISON CTR/DR. SKIN: IRRIT. REMOVE WET CLOTHES. FLUSH W/WARM WATER 15 MIN. IF IRRIT PERSISTS, CALL DR/POISON CTR. INHAL: IF INHALED, MAY COUGH. TAKE SLOW DEEP BREATHS OF FRESH AIR, SIP WATER. IF COUGH PERSISTS, CALL DR/POISON CTR.

=====

Precautions for Safe Handling and Use

=====

Steps If Matl Released/Spill: SMALL SPILLS CAN BE BRUSHED UP WITH A BROOM OR VACUUMED UP.

Waste Disposal Method: PREFERRED METHOD IS INCINERATION AT A LICENSED APPROVED FACILITY. EMPTY CONTAINERS MAY BE DISPOSED AS CONVENTIONAL WASTE.

Ajax Institutional

Precautions-Handling/Storing: STORE IN A COOL DRY PLACE (40 TO 125F). KEEP CONTAINERS SEALED TO AVOID ABSORPTION OF MOISTURE FROM THE AIR AND POSSIBLE LOSS OF BLEACHING FUNCTION.

Other Precautions: KEEP OUT OF REACH OF CHILDREN. WARNING: CONTAINS CHLORINE BLEACH. DO NOT MIX WITH AMMONIA. NOT RECOMMENDED FOR USE ON SILVER. USE CARE WHEN CLEANING PLASTIC SURFACES TO AVOID SCRATCHING.

Control Measures

Respiratory Protection: IF PRODUCT IS TO BE INTENTIONALLY SPRAYED INTO THE AIR, THE USE OF A DUST MASK IS RECOMMENDED.

Protective Gloves: NORMAL CONDITIONS NOT REQUIRED.

Eye Protection: IF SPRAYED GOGGLES RECOMMENDED.

Other Protective Equipment: UNDER NORMAL CONDITIONS OF PRODUCT USE NO SPECIAL PROTECTION FOR EYES/SKIN IS REQUIRED.

Work Hygienic Practices: AVOID CONTACT WITH SKIN AND EYES.

Transportation Data

Trans Data Review Date: 92170

DOT PSN Code: ZZZ

DOT Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION

IMO PSN Code: ZZZ

IMO Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION

Ajax Institutional

IATA PSN Code: ZZZ

IATA Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION

AFI PSN Code: ZZZ

AFI Prop. Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION

MMAC Code: NK

=====

Disposal Data

=====

=====

Label Data

=====

Label Required: YES

Label Status: G

Common Name: INSTITUTIONAL AJAX CLEANER WITH CHLORINE BL

Special Hazard Precautions: INGESTION: NAUSEA, VOMITING, AND DIARRHEA.

EYES: EYE IRRITANT UPON DIRECT CONTACT. SKIN: MAY CAUSE SKIN IRRITATION

UPON PROLONGED CONTACT. INHALATION: NONE UNDER NORMAL USE. PROLONGED

INHALATION BY UNORTHODOX USE (NON-WETTED) OR ABUSE (SNIFFING) COULD PRODUCE

LUNG DISEASE (SILICOSIS). N/K

Label Name: COLGATE-PALMOLIVE CO

Label Street: 101 NORTH SUMMIT STREET

Label City: TENAFLY

Label State: NJ

Label Zip Code: 07670

Ajax Institutional

Label Country: US

Label Emergency Number: 412-692-5596/412-692-5596 (MEDICAL)



AJAX TRADITIONAL DISHWASHING LIQUID ORANGE - PALMOLIVE TRADITIONAL DISHWASHING LIQUID ORANGE

This industrial Safety Data Sheet is not intended for consumers and does not address consumer use of the product. For information regarding consumer applications of this product, refer to the product label.

Version 1.0

SDS Number: 660000000392

Revision Date: 05/21/2015

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : AJAX TRADITIONAL DISHWASHING LIQUID ORANGE -
PALMOLIVE TRADITIONAL DISHWASHING LIQUID
ORANGE

Product code : 200000025175

: B02928820014

Manufacturer or supplier's details

Company : Colgate-Palmolive Co
300 Park Avenue
New York, NY 10022

Telephone :

Emergency telephone
number :

Medical Emergency (24HR): For MEDICAL EMERGENCIES involving this product call:
(888) 489-3861

Recommended use of the chemical and restrictions on use

Recommended use : Home care
A formulated dishwashing liquid

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	liquid
Colour	orange

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Not a hazardous substance or mixture.

Potential Health Effects

Inhalation : Overexposure may cause respiratory tract irritation.

Skin : May cause skin irritation upon prolonged contact.

Eyes : Causes eye irritation on direct contact.

Ingestion : Harmful if swallowed.



AJAX TRADITIONAL DISHWASHING LIQUID ORANGE - PALMOLIVE TRADITIONAL DISHWASHING LIQUID ORANGE

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Version 1.0

SDS Number: 660000000392

Revision Date: 05/21/2015

Aggravated Medical Condition : None known.

Carcinogenicity:

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

- | | |
|-------------------------|--|
| If inhaled | : Remove victim to fresh air. Get medical attention, if symptoms persist. |
| In case of skin contact | : Flush skin with large amounts of water. If irritation develops and persists, get medical attention. |
| In case of eye contact | : Flush eyes with water at least 15 minutes. Get medical attention if eye irritation develops or persists. |
| If swallowed | : Drink 8 ounces of clear water. Get medical attention. |

SECTION 5. FIREFIGHTING MEASURES

- | | |
|-------------------------------|--|
| Suitable extinguishing media | : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| Hazardous combustion products | : No hazardous combustion products are known |
| Special protective equipment | : Self-contained breathing apparatus and full protective clothing |



AJAX TRADITIONAL DISHWASHING LIQUID ORANGE - PALMOLIVE TRADITIONAL DISHWASHING LIQUID ORANGE

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Version 1.0

SDS Number: 660000000392

Revision Date: 05/21/2015

for firefighters

should be worn when fighting chemical fires.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protection recommended in Section 8 of the SDS.

Methods and materials for containment and cleaning up : Cover with inert, absorbent material and remove to disposal container. Spill area may be slippery. Flush with plenty of water.

SECTION 7. HANDLING AND STORAGE

Conditions for safe storage : Store at controlled room temperature at 20-25°C (68-77°F).

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : In an industrial work environment, no special precautions or control measures are required.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Protective measures : In an industrial work environment, if a splash is likely, chemical goggles may be needed. Prolonged skin contact may require protective gloves. For consumer use, no unusual precautions are necessary.

Hygiene measures : In an industrial work environment, avoid eye and prolonged skin contact.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : orange

pH : 7.2

Flash point : ≥ 200 °F

AJAX TRADITIONAL DISHWASHING LIQUID ORANGE - PALMOLIVE TRADITIONAL DISHWASHING LIQUID ORANGE

This industrial Safety Data Sheet is not intended for consumers and does not address consumer use of the product. For information regarding consumer applications of this product, refer to the product label.

Version 1.0

SDS Number: 660000000392

Revision Date: 05/21/2015

Density : > 1.010 g/cm³

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Incompatible materials : Strong oxidizing agents

Hazardous decomposition products : None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Not classified based on available information.

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.



AJAX TRADITIONAL DISHWASHING LIQUID ORANGE - PALMOLIVE TRADITIONAL DISHWASHING LIQUID ORANGE

This industrial Safety Data Sheet is not intended for consumers and does not address consumer use of the product. For information regarding consumer applications of this product, refer to the product label.

Version 1.0

SDS Number: 660000000392

Revision Date: 05/21/2015

Further information

Product:

Remarks: This product has not been tested as a whole. However, this formula was reviewed by expert toxicologists in the Product Safety Assurance Department of Colgate-Palmolive and is determined to be safe for its intended use. This review has taken into consideration available safety-related information including information on individual ingredients, similar formulas and potential ingredient interactions. This review is a component of the hazard determination used to prepare the statements in Section 3 of the SDS.

SECTION 12. ECOLOGICAL INFORMATION

The product has not been tested as a whole for environmental toxicity. However, environmental information on the ingredients in this product have been reviewed by the Environmental, Health and Safety group of Colgate-Palmolive and determined to have an acceptable environmental profile. This evaluation is based on available information on individual ingredients, interactions of ingredients, and similar ingredients. Biodegradability claims are supported by data on ingredients (i.e., surfactants are biodegradable) or testing conducted on the final product (i.e., This product is biodegradable).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environment agency for specific rules). Do not dump in sewers, any body of water or on the ground.

SECTION 14. TRANSPORT INFORMATION

DOT : Not regulated.

TDG : Not regulated.

IATA : Not regulated.

IMDG : Not regulated.

International Regulation

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

AJAX TRADITIONAL DISHWASHING LIQUID ORANGE - PALMOLIVE TRADITIONAL DISHWASHING LIQUID ORANGE

This industrial Safety Data Sheet is not intended for consumers and does not address consumer use of the product. For information regarding consumer applications of this product, refer to the product label.

Version 1.0

SDS Number: 660000000392

Revision Date: 05/21/2015

SECTION 15. REGULATORY INFORMATION

TSCA list : Not relevant

Not relevant

OSHA Hazards : Moderate skin irritant, Severe eye irritant

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
FORMALDEHYDE	50-00-0	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
FORMALDEHYDE	50-00-0	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

SODIUM BISULFITE	7631-90-5
FORMALDEHYDE	50-00-0
Sulfuric Acid	SULFURIC ACID

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

SODIUM BISULFITE	7631-90-5
FORMALDEHYDE	50-00-0



AJAX TRADITIONAL DISHWASHING LIQUID ORANGE - PALMOLIVE TRADITIONAL DISHWASHING LIQUID ORANGE

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Version 1.0

SDS Number: 660000000392

Revision Date: 05/21/2015

Sulfuric Acid

SULFURIC ACID

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

FORMALDEHYDE
Sulfuric Acid

50-00-0
SULFURIC
ACID

Pennsylvania Right To Know

WATER
AMMONIUM ALCOHOL ETHER SULFATE
AMMONIUM SULFATE

Water
Not Assigned
7783-20-2

New Jersey Right To Know

WATER
AMMONIUM ALCOHOL ETHER SULFATE
LAURAMIDOPROPYLDIMETHYLAMINE
OXIDE

Water
Not Assigned
61792-31-2

California Prop 65

: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA

: All ingredients in this product are listed on the TSCA Inventory or are not required to be listed on the TSCA Inventory.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

In accordance with OSHA 29 CFR 1910.1048 formaldehyde is not listed in Section 3 of this MSDS, however, formaldehyde is regulated by State and Federal regulations at varying concentrations. State and Federal information can be found above in Section 15.



AJAX TRADITIONAL DISHWASHING LIQUID ORANGE - PALMOLIVE TRADITIONAL DISHWASHING LIQUID ORANGE

This industrial Safety Data Sheet is not intended for consumers and does not address consumer use of the product. For information regarding consumer applications of this product, refer to the product label.

Version 1.0

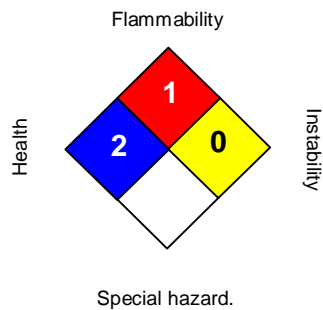
SDS Number: 660000000392

Revision Date: 05/21/2015

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Disclaimer: The information on this sheet is limited to the material identified and is believed by the Colgate-Palmolive Company to be correct based on its knowledge and information as of the date noted. Colgate makes no representation, guarantee or warranty, expressed or implied, as to the accuracy, reliability or completeness of the information and assumes no responsibility for injury, damage or loss resulting from the use of the material.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 29.00

Revision Date: February 6, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Albumin

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

Product should be treated as a chemical and is not for consumption as it has been stored with other nonfood-grade chemicals.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Albumin	9006-59-1	Unspecified	~45 kDa	
Synonyms: Ovalbumin; OVA; Dried egg whites				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Wipe up the spill with a damp towel. Place in a sealed bag or container, and dispose. and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #2. Store with alcohols, glycols, amines and amides. Store in a cool, dry place. Heat and moisture sensitive. Store in a Flinn Chem-Saf™ bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Avoid contact with eyes. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White to pale yellow powder. Slight musty odor.
Soluble: Water

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Fair to poor. Altered by heat and moisture. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.	ORL-MUS LD ₅₀ : >24 g/kg
Chronic effects: N.A.	IHL-RAT LC ₅₀ : N.A.
Target organs: N.A.	SKN-RBT LD ₅₀ : N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: February 6, 2014

ALCOJET MSDS

Section 1 : MANUFACTURER INFORMATION

Supplier: Same as manufacturer.

Manufacturer: Alconox, Inc.
30 Glenn St.
Suite 309
White Plains, NY 10603.

Manufacturer emergency 800-255-3924.
phone number: 813-248-0585 (outside of the United States).

Manufacturer: Alconox, Inc.
30 Glenn St.
Suite 309
White Plains, NY 10603.

Supplier MSDS date: 2009/04/30

D.O.T. Classification: Not regulated.

Section 2 : HAZARDOUS INGREDIENTS

C.A.S.	CONCENTRATION %	Ingredient Name	T.L.V.	LD/50	LC/50
497-19-8	15.40	SODIUM CARBONATE	NOT AVAILABLE	4090 MG/KG RAT ORAL 6600 MG/KG MOUSE ORAL	2300 MG/M3/2H RAT INHALATION 1200 MG/M3/2H MOUSE INHALATION
6834-92-0	5-10	SODIUM METASILICATE	NOT AVAILABLE	1153 MG/KG RAT ORAL 770 MG/KG MOUSE ORAL	NOT AVAILABLE
7722-88-5	3-7	TETRASODIUM PYROPHOSPHATE	5 MG/M3	4000 MG/KG RAT ORAL 2980 MG/KG MOUSE ORAL	NOT AVAILABLE
7758-29-4	14-40	SODIUM PHOSPHATE	NOT AVAILABLE	3120 MG/KG RAT ORAL 3100 MG/KG MOUSE ORAL >4640 MG/KG RABBIT DERMAL	NOT AVAILABLE

Section 2A : ADDITIONAL INGREDIENT INFORMATION

Note: (supplier).

CAS# 497-19-8: LD50 4020 mg/kg - rat oral.

CAS# 7758-29-4: LD50 3100 mg/kg - rat oral.

Section 3 : PHYSICAL / CHEMICAL CHARACTERISTICS

Physical state: Solid

Appearance & odor: White granular powder.
Slight characteristic odor.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): Not applicable.

Vapour density (air=1): Not applicable.

By weight: Not available.

Evaporation rate (butyl acetate = 1): Not applicable.

Boiling point (°C): Not applicable.

Freezing point (°C): Not applicable.

pH: (1% aqueous solution).
11

Specific gravity @ 20 °C: (water = 1).
0.85-1.25

Solubility in water (%): >10% w/w

Coefficient of water\oil dist.: Not available.

VOC: None

Section 4 : FIRE AND EXPLOSION HAZARD DATA

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: Carbon dioxide, dry chemical, foam.
Water
Water fog.

Special procedures: Self-contained breathing apparatus required.
Firefighters should wear the usual protective gear.

Auto-ignition temperature: Not available.

Flash point (°C), method: None

Lower flammability limit (% vol): Not applicable.

Upper flammability limit (% vol): Not applicable.

Not available.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Oxides of carbon (COx).
Hydrocarbons.
Oxygen.
Hydrogen.

Rate of burning: Not applicable.

Explosive power: None

Section 5 : REACTIVITY DATA

Chemical stability: Product is stable.

Conditions of instability: None known.

Hazardous polymerization: Will not occur.

Incompatible substances: Strong acids.
Strong oxidizing agents.

Hazardous decomposition products: See hazardous combustion products.

Section 6 : HEALTH HAZARD DATA

Route of entry: Skin contact, eye contact, inhalation and ingestion.

Effects of Acute Exposure

Eye contact: May cause irritation.

Skin contact: May cause irritation on prolonged or repeated contact.

Inhalation: Dust may irritate the respiratory tract.

Ingestion: May cause vomiting.
May cause stomach pains and diarrhea.
May cause gastric distress.

Effects of chronic exposure: Contains an ingredient which may be corrosive.

LD50 of product, species & route: > 5000 mg/kg rat oral.

LC50 of product, species & route: Not available for mixture, see the ingredients section.

Exposure limit of material: Not available for mixture, see the ingredients section.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Medical conditions aggravated by exposure: Not available.

First Aid

Skin contact: Remove contaminated clothing.
Wash thoroughly with soap and water.
Seek medical attention if irritation persists.

Eye contact: Check for and remove contact lenses.
Flush with running water for 15 minutes, lifting upper and lower lids occasionally.
If irritation persists, get medical attention.

Inhalation: Remove victim to fresh air.
If irritation persists, seek medical attention.

Ingestion: Do not induce vomiting, seek medical attention.
Dilute with two glasses of water.
Never give anything by mouth to an unconscious person.

Section 7 : PRECAUTIONS FOR SAFE HANDLING AND USE

Leak/Spill: Contain the spill.
Prevent entry into drains, sewers, and other waterways.
Wear appropriate protective equipment.
Sweep or shovel into containers for reuse.

Waste disposal: In accordance with local and federal regulations.

Handling procedures and equipment: Protect against physical damage.
Wear personal protective equipment appropriate to task.
Avoid breathing dust.
Wash thoroughly after handling.
Keep out of reach of children.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep containers closed when not in use.
Store in a cool and dry place.
Store away from strong acids or oxidizers.

Section 8 : CONTROL MEASURES

Precautionary Measures

Gloves/Type:



Neoprene or rubber gloves.

Respiratory/Type:



If exposure limit is exceeded, wear a NIOSH approved respirator.

Eye/Type:



Chemical safety goggles with side-shields.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type: As required to prevent skin contact.

Other/Type: Eye wash capability should be in close proximity.

Ventilation requirements: Local exhaust at points of emission.

Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS

Effective date: 11/20/2014

Revision: 05/12/2015

ALCONOX**1 Identification of the Substance/mixture and of the Company/Undertaking****1.1 Product identifier**Trade name: **ALCONOX**

Application of the substance / the preparation: Cleaning material/ Detergent

1.2 Relevant identified uses of the substance or mixture and uses advised against:

No additional information available.

1.3 Details of the supplier of the Safety Data Sheet**Manufacturer/Supplier:**

Alconox, Inc.
30 Glenn St., Suite 309
White Plains, NY 10603
Phone: 914-948-4040



Further information obtainable from: Product Safety Department

1.4 Emergency telephone number:

ChemTel Inc.: (800)255-3924, +1 (813)248-0585

2 Hazards Identification**2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008:***Eye Irrit. 2B; H320: Causes eye irritation.***Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008:**

The product is classified and labelled according to the CLP regulation.

Hazard pictograms:**Signal word:** Warning**Hazard-determining components of labelling:**

Sodium Alkylbenzene Sulfonate

Hazard statements:

H320: Causes eye irritation.

Precautionary statements:

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P264: Wash thoroughly after handling.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS

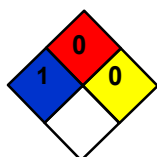
Effective date: 11/20/2014

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ALCONOX

Other Hazard description:**WHMIS-classification and symbols:**

D2B - Toxic material causing other toxic effects

**NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)

HEALTH	1		Health = 1
FIRE	0		Fire = 0
REACTIVITY	0		Reactivity = 0

2.3 Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/Information on Ingredients

3.2 Chemical characterization: Mixture

Description: Hazardous ingredients of mixture listed below.

Identifying Nos.	Description	Wt. %
CAS: 68081-81-2	Sodium Alkylbenzene Sulfonate	10 - 25%
CAS: 497-19-8	Sodium Carbonate	5-15%
CAS: 7722-88-5	Tetrasodium pyrophosphate	5-15%
CAS: N/A	Proprietary (non-classified)	40-60%

Additional information: For the wording of the listed risk phrases refer to section 16.

4 First Aid Measures

4.1 Description of first aid measures**General information:**

Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take copy of label and SDS to health professional with contaminated individual.

After inhalation:

Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS

Effective date: 11/20/2014

Revision: 05/12/2015

ALCONOX

After eye contact:

Remove contact lenses if worn. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed:

No additional information available.

4.3 Indication of any immediate medical attention and special treatment needed:

No additional information available.

5 Firefighting Measures

5.1 Extinguishing media:**Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture:

No additional information available.

5.3 Advice for firefighters:**Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Product forms slippery surface when combined with water.

6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

6.3 Methods and material for containment and cleaning up:

Pick up mechanically.

Clean the affected area carefully; suitable cleaners are: Warm water

6.4 Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information

7 Handling and Storage

7.1 Precautions for safe handling:

Ensure good ventilation/exhaustion at the workplace.

Keep receptacles tightly sealed.

Prevent formation of dust.

Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities:**Storage:**

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: None required.

Further information about storage conditions: Protect from humidity and water.

7.3 Specific end use(s): No additional information available.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS

Effective date: 11/20/2014

Revision: 05/12/2015

ALCONOX

8 Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace: Not required.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls:

Personal protective equipment:

General protective and hygienic measures:

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Avoid contact with the skin.
- Avoid contact with the eyes and skin.

Respiratory protection:

- Not required under normal conditions of use.
- In case of brief exposure or low pollution use respiratory filter device.
- In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product. Selection of the glove material should be based on the penetration time, rates of diffusion and the degradation of the glove material.

Material of gloves:

The selection of a suitable gloves does not only depend on the material, but also on the quality, and varies from manufacturer to manufacturer.

Penetration time of glove material:

The exact break through time has to be determined by the manufacturer of the protective gloves. DO NOT exceed the breakthrough time set by the Manufacturer.

For long term contact, gloves made of the following materials are considered suitable:

- Butyl rubber, BR
- Nitrile rubber, NBR
- Natural rubber (NR)
- Neoprene gloves

Eye protection:



Safety glasses

Body protection: Protective work clothing

9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

General Information:

Appearance:

Form:	Powder
Color:	White
Odor:	Odorless
Odor threshold:	Not determined.
pH-value (10 g/l) at 20°C:	9.5 (NA for Powderform)

Change in condition:

Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	Not determined.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS

Effective date: 11/20/2014

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ALCONOX

Flash point:	Not applicable.
Flammability (solid, gaseous):	Not determined.
Ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Self-igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not applicable.
Density at 20°C:	1,1 g/cm ³
Relative density:	Not determined.
Vapor density:	Not applicable.
Evaporation rate:	Not applicable.
Solubility in / Miscibility with water:	Soluble.
Segregation coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
Solvent content:	
Organic solvents:	0.0 %
Solids content:	100 %
9.2 Other information:	No additional information available.

10 Stability and Reactivity

- 10.1 Reactivity:**
- 10.2 Chemical stability:**
- Thermal decomposition / conditions to be avoided:**
 No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions:**
- Reacts with acids.
 Reacts with strong alkali.
 Reacts with strong oxidizing agents.
- 10.4 Conditions to avoid:**
- No additional information available.
- 10.5 Incompatible materials:**
- No additional information available.
- 10.6 Hazardous decomposition products:**
- Carbon monoxide and carbon dioxide
 Phosphorus compounds
 Sulphur oxides (SO_x)

11 Toxicological Information

- 11.1 Information on toxicological effects:**
- Toxicity data:** No additional information available.
- Primary irritant effect:**
- On the skin:** Irritating to skin and mucous membranes.
 On the eye: Strong irritant with the danger of severe eye injury.
 Sensitization: No sensitizing effects known.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS

Effective date: 11/20/2014

Revision: 05/12/2015

ALCONOX

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version: Irritant.

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological Information

12.1 Toxicity:

Aquatic toxicity: No additional information available.

12.2 Persistence and degradability: No additional information available.**12.3 Bioaccumulative potential:** Not worth-mentioning accumulating in organisms.**12.4 Mobility in soil:** No additional information available.**Ecotoxicological effects:**

Remark: Harmful to fish

Additional ecological information:**General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

12.5 Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No additional information available.

13 Disposal Considerations

13.1 Waste treatment methods:**Recommendation:**

Smaller quantities can be disposed of with household waste.

Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

The surfactant used in this product complies with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, together with cleansing agents, if necessary.

14 Transport Information

14.1 UN-Number:

DOT, ADR, ADN, IMDG, IATA:

Not Regulated

14.2 UN proper shipping name:

DOT, ADR, IMDG, IATA:

Not Regulated

14.3 Transport hazard class(es):

DOT, ADR, IMDG, IATA:

Class:

Not Regulated

Label:

-

14.4 Packing group:

DOT, ADR, IMDG, IATA:

Not Regulated

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS

Effective date: 11/20/2014

Revision: 05/12/2015

ALCONOX

14.5 Environmental hazards:**Marine pollutant:** No**14.6 Special precautions for user:** Not applicable.**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable.**UN "Model Regulation":** Not Regulated

15 Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**United States (USA):****SARA:****Section 355 (extremely hazardous substances):** None of the ingredient is listed.**Section 313 (Specific toxic chemical listings):** None of the ingredient is listed.**TSCA (Toxic Substances Control Act):** All ingredients are listed.**Proposition 65 (California):****Chemicals known to cause cancer:** None of the ingredient is listed.**Chemicals known to cause reproductive toxicity for females:** None of the ingredient is listed.**Chemicals known to cause reproductive toxicity for males:** None of the ingredient is listed.**Chemicals known to cause developmental toxicity:** None of the ingredient is listed.**Carcinogenic Categories:****EPA (Environmental Protection Agency):** None of the ingredient is listed.**TLV (Threshold Limit Value established by ACGIH):** None of the ingredient is listed.**NIOSH-Ca (National Institute for Occupational Safety and Health):** None of the ingredient is listed.**OSHA-Ca (Occupational Safety & Health Administration):** None of the ingredient is listed.**Canada:****Canadian Domestic Substances List (DSL):** All ingredients are listed.**Canadian Ingredient Disclosure list (limit 0.1%):** None of the ingredient is listed.**Canadian Ingredient Disclosure list (limit 1%):**

497-19-8 Sodium Carbonate

7722-88-5 Tetrasodium pyrophosphate

151-21-3 Sodium dodecylsulphate

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other Information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases:

H320: Causes eye irritation.

Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS

Effective date: 11/20/2014

Revision: 05/12/2015

ALCONOX

Abbreviations and Acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
IMDG: International Maritime Code for Dangerous Goods.
DOT: US Department of Transportation.
IATA: International Air Transport Association.
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH: American Conference of Governmental Industrial Hygienists.
NFPA: National Fire Protection Association (USA).
HMIS: Hazardous Materials Identification System (USA).
WHMIS: Workplace Hazardous Materials Information System (Canada).
VOC: Volatile Organic Compounds (USA, EU).
LC50: Lethal concentration, 50 percent.
LD50: Lethal dose, 50 percent.

SDS Created by:

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Website: www.GSMSDS.com

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 32.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Alizarin Yellow R

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Alizarin yellow R	1718-34-9	$C_{13}H_8N_3O_5Na$	309.2	
Synonyms: Mordant orange 1; C.I. 14030; Benzoic acid, 2-hydroxy-5-(2-(4-nitrophenyl)diazenyl)-, sodium salt				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P301+P330+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Do not allow solid to become airborne. Ventilate area. Wipe up the spill with a damp towel. Place in a sealed bag or container, and dispose. and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators and stains.
Keep container tightly closed. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling (P264). Will stain skin, clothing, and surfaces.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Orange to brown powder. Odorless.
Soluble: Water.

Absorbance maximum: 385 nm
Biological stain.
pH indicator: 10.2 yellow to 12.2 red.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with oxidizers and reducers.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD₅₀: N.A.
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (218-818-3).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

ALL SEASON T30 SELECT™

MATERIAL SAFETY DATA SHEET

Effective Date: 01/01/2008

ALL SEASON T30 SELECT is a diester based synthetic lubricant formulated for use in Ingersoll-Rand Type 30 Reciprocating Air compressors.

1. PRODUCT IDENTIFICATION: Mixture-Chemical Family: Diester

2. HAZARDOUS INGREDIENTS: The components of this product are not listed as hazardous or toxic according to OSHA (29 CFR OSHA 1910.1200), NTP, IARC and SARA 313.

Hazardous Materials Identification System (HMIS):

Health	Flammability	Reactivity	Basis	Hazard Ratings Key:
0	1	0	—	4 = Highest 0 = Lowest

3. PHYSICAL DATA:

Boiling Point: N/A

Viscosity: 96.9 cSt @ 40°C

Vapor Density: Greater than air

Solubility in Water: Negligible

Appearance: Light straw colored fluid

Odor: Mild ester odor

Pour Point: -40°F

Specific Gravity: 0.92

Percent Volatile: Negligible

Evaporation Rate: Not volatile, slower than Butyl Acetate

4. FIRE AND EXPLOSION HAZARD DATA:

Flash Point: 480°F (249°C)

Method Used: ASTM D92

Flammable Limits: Not established

Fire Fighting Media: Water spray, dry chemical, foam or carbon dioxide

Fire Fighting Procedures: Use water to keep fire-exposed container cool. Wear self-contained positive pressure breathing apparatus and full protective gear to fight fire. Cool with water spray.

Special Fire and Explosion Hazard: None expected

5. HEALTH HAZARD: This product does not contain any components considered to be health hazards under the OSHA Hazard Communication Standards 29CFR 1910.1200 or under the WHMIS Controlled Product Regulations in Canada.

Effects on exposure: Prolonged or repeated skin contact may tend to remove natural skin oils, thus leading to possible irritation and dermatitis.

Medical Conditions Generally Aggravated by Exposure: May aggravate previous skin condition.

Skin Contact: With repeated contact, a skin defatter. May develop redness or mild irritation.

Skin Absorption: Not established

Ingestion (Acute): Can cause gastrointestinal irritation. No hazard expected in normal use.

Eyes: Mild irritation.

Systemic & Other Effects: Not established



All Season T30 Select™

6. REACTIVITY DATA:

Stability: Stable under normal storage conditions

Incompatibility: Avoid contact with strong oxidizers such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

Hazardous Decomposition: Burning will produce toxic fumes.

Hazardous Polymerization: Will not occur under normal conditions

Conditions to Avoid: Open flames

7. HANDLING AND STORAGE:

Exposure Guidelines: Not Established. OSHA TLV/TWA 5mg/m3 oil mist can be used.

Ventilation: Local exhaust to capture vapor, mist or fumes, if necessary.

Respiratory Protection: Use NIOSH-approved equipment: filter, fume or mist respirator under misty conditions.

Skin Protection: For prolonged use, use chemical resistant gloves to minimize skin contact.

Eye Protection: Use safety glasses with side shields.

Special Handling: If splashing occurs, use apron. Do not get in eyes, on skin or clothing. Wash thoroughly after handling.

Storage: Store in a cool, dry place. Keep containers closed when not in use.

8. ENVIRONMENTAL AND DISPOSAL INFORMATION:

Steps to be Taken in Case of Spills: Ventilate area. Prevent spread of spill. Absorb with sand or an inert, absorbing material. Sweep or scoop up and place in a disposal container. Do not contaminate any lakes, ponds, streams, ground water or soil.

Waste Disposal Method: Dispose of in accordance with local, state or federal laws.

9. FIRST AID:

Eyes: Flush with water for at least 15 minutes. Hold eyelids open while flushing. If irritation persists get medical attention.

Skin: Remove contaminated clothing and wash skin thoroughly with soap and water.

Ingestion: Drink 8-10 ounces of water. Do not induce vomiting. Get medical attention immediately.

Inhalation: Remove to fresh air. Get medical attention if discomfort persists.

10. PREPARED BY: Ingersoll-Rand

Note: This information is furnished without warranty, representation, inducement or license of any kind, except that it is accurate to the best of Ingersoll-Rand's knowledge or obtained from sources believed by Ingersoll-Rand to be accurate, and Ingersoll-Rand does not assume any legal responsibility for use or reliance upon same. Customers are encouraged to conduct their own tests. Before using any product, READ ITS LABEL.

Emergency Contact:

Telephone: 704/896-4500

Telex: 572584 IRACDSN DVDS

800-B Beaty Street

Davidson, NC 28036



MATERIAL SAFETY DATA SHEET ALL-NU

DATE OF ISSUE: 02/11/2003
SUPERCEDES: 08/20/1997

SECTION I - GENERAL INFORMATION

Chemical Name & Synonyms:	Trade Name & Synonyms:
N/A	ALL-NU
Chemical Family:	Formula Mixture:
AQUEOUS GLYCOL ETHER SOLUTION	X
Manufacturer's Name:	
MANTEK, DIVISION OF NCH CORP.	
Address:	
BOX 152170	
IRVING, TEXAS 75015	
Prepared By:	L Boynton/Chemist
Product Code Number:	0719
Emergency Phone Number:	800-424-9300

SECTION II - HAZARDOUS INGREDIENTS

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS:

Chemical Name (Ingredients):	PROPYLENE GLYCOL MONOMETHYL ETHER (PGME)
Hazard:	IRR/COMB
TLV:	100 PPM 1
PEL:	N/E 2
STEL:	150 PPM 1
CAS#:	107-98-2

SECTION III - PHYSICAL DATA

Boiling Point (f):	>212°
Specific Gravity (H2O=1):	1.015
Vapor Pressure (MM HG):	20
Color:	GREEN
Vapor Density (Air=1):	>1
Odor:	LEMON
PH @ 100%:	12.8
Clarity:	TRANSPARENT
Volatile by Volume:	>93
Evaporation Rate (BU A/C=1):	0.1
H2O Solubility:	COMPLETE
Viscosity:	NON-VISCOUS

SECTION IV - FIRE AND EXPLOSION HAZARD

Flash Point: 190°F / T.C.C.
Flammable Limits: PGME LEL: 1.6% UEL:13.8%

Extinguishing Media:

Foam: X	Alcohol Foam:	CO2: X
Dry Chemical: X	Water Spray: X	Other:

Special Fire Fighting Procedures:

FIREFIGHTERS SHOULD WEAR A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR. COOL FIRE-EXPOSED CONTAINERS WITH WATER SPRAY TO PREVENT BURSTING.

Unusual Fire and Explosion Hazards:

USE CARE AS SPILLS MAY BE SLIPPERY. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL TO DISTANT SOURCES OF IGNITION AND FLASHBACK.

Aerosol Level (NFPA 30B): N/A

NFPA 704 Hazard Rating:

(0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme)

Health: 1 Flammability: 2 Instability: 0 Special:

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value:

100 PPM AS PROPYLENE GLYCOL MONOMETHYL ETHER 1.

Effects of Overexposure:

-Acute(Short Term Exposure)

EYE CONTACT: CAUSES IRRITATION SEEN AS STINGING, TEARING AND REDNESS.

SKIN CONTACT: CAUSES IRRITATION SEEN AS ITCHING AND REDNESS. PROLONGED SKIN CONTACT WITH VERY LARGE AMOUNTS MAY RESULT IN ABSORPTION THROUGH THE SKIN WITH EFFECTS SIMILAR TO INHALATION.

INHALATION: AT LOW LEVELS, NO HARMFUL EFFECTS ARE EXPECTED. AT HIGH VAPOR CONCENTRATIONS, INHALATION MAY CAUSE HEADACHE, DIZZINESS AND NAUSEA WITH POSSIBLE ANESTHETIC EFFECTS FROM CENTRAL NERVOUS SYSTEM DEPRESSION.

INGESTION: MAY CAUSE IRRITATION WITH POSSIBLE NAUSEA, VOMITING AND DIARRHEA.

-Chronic (Long Term Exposure)

PROLONGED OR REPEATED EXPOSURE MAY RESULT IN CENTRAL NERVOUS SYSTEM, LIVER AND KIDNEY EFFECTS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE ARE PRE-EXISTING RESPIRATORY AND SKIN CONDITIONS SUCH AS ASTHMA, EMPHYSEMA AND DERMATITIS AND PRE-EXISTING LIVER AND KIDNEY DISEASES.

TARGET ORGANS: CENTRAL NERVOUS SYSTEM, LIVER AND KIDNEYS.

Primary Routes of Entry: Inhalation: X Ingestion: Absorption: X

Emergency and First Aid Procedures:

-Inhalation:

REMOVE FROM THE AREA TO FRESH AIR. SEEK MEDICAL ATTENTION IF RESPIRATORY IRRITATION DEVELOPS OR IF BREATHING BECOMES DIFFICULT.

-Eye Contact:

RINSE THE EYES WITH WATER. REMOVE ANY CONTACT LENSES AND CONTINUE FLUSHING WITH PLENTY OF WATER FOR SEVERAL MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS.

-Skin Contact:

WASH AFFECTED AREAS WITH LARGE AMOUNTS OF SOAP AND WATER FOR 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION IF IRRITATION PERSISTS. WASH CLOTHING AND CLEAN SHOES BEFORE REUSE.

-Ingestion:

GIVE 3 TO 4 GLASSES OF WATER, BUT DO NOT INDUCE VOMITING. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. SEEK MEDICAL ATTENTION IF DISCOMFORT OCCURS.

-Notes to Physician:

THERE IS NO SPECIFIC ANTIDOTE. TREAT THE PATIENT SYMPTOMATICALLY.

SECTION VI - TOXICITY INFORMATION

Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:

IARC: No NTP: No OSHA: No ACGIH: No
OTHER: No

PRODUCT MIXTURE

VOC CONTENT: 2.3% BY WEIGHT

ORL-RAT LD50: > 5 G/KG 4.
EXPECTED TO BE A SKIN IRRITANT 4.
EXPECTED TO BE AN EYE IRRITANT 4.

PROPYLENE GLYCOL MONOMETHYL ETHER (PGME)

SKN-RBT LD50: 11028 MG/KG 4.
ORL-RBT LD50: 6065 MG/KG 4.
ORL-MUS LD50: 11700 MG/KG 3.
IHL-RAT LC50: 10000 PPM/5HR 3.
EYE-RBT SDT: 500 MG (24HR) MLD 3.

BIRTH DEFECTS ARE UNLIKELY. EXPOSURES HAVING NO ADVERSE EFFECTS ON THE MOTHER SHOULD HAVE NO EFFECT ON THE FETUS. 4.

IN ANIMAL STUDIES, DID NOT INTERFERE WITH REPRODUCTION OR FERTILITY. 4.
RESULTS OF INVITRO (TEST TUBE) MUTAGENICITY TESTS HAVE BEEN NEGATIVE. 4.

SECTION VII - REACTIVITY DATA

Stability: Stable: X Unstable:

Conditions to Avoid: AVOID HEAT, HOT SURFACES, SPARKS AND OPEN FLAMES.

Incompatibility (Materials to Avoid):

STRONG OXIDIZING AGENTS SUCH AS CHLORINE BLEACH AND CONCENTRATED HYDROGEN PEROXIDE; STRONG ACIDS AND BASES.

Hazardous Decomposition Products:

OXIDES OF CARBON, NITROGEN AND AMMONIA.

Hazardous Polymerization:

May Occur: Will Not Occur: X

Conditions to Avoid: N/A

SECTION VIII - SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled:

WEAR APPROPRIATE PROTECTIVE CLOTHING. ELIMINATE ALL SOURCES OF IGNITION AND VENTILATE THE AREA. USE ONLY NON-SPARKING EQUIPMENT. USE CARE AS SPILLS MAY BE SLIPPERY. DIKE AND CONTAIN SPILL. ABSORB WITH AN INERT MATERIAL AND TRANSFER ALL MATERIAL INTO A PROPERLY LABELED CONTAINER FOR DISPOSAL. PREVENT PRODUCT FROM CONTAMINATING SOIL OR FROM ENTERING SEWAGE AND DRAINAGE SYSTEMS AND BODIES OF WATER. FLUSH AREA WITH WATER.

Waste Disposal Method(s):

DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

Neutralizing Agent:

NONE KNOWN.

SECTION IX - SPECIAL PROTECTION INFORMATION

Required Ventilation:

GENERAL VENTILATION IS NORMALLY ADEQUATE. LOCAL VENTILATION IS RECOMMENDED TO CONTROL EXPOSURE FROM OPERATIONS THAT CAN GENERATE MISTS OR VAPORS.

Respiratory Protection:

RESPIRATORS SHOULD BE SELECTED BY AND USED UNDER THE DIRECTION OF A TRAINED HEALTH AND SAFETY PROFESSIONAL FOLLOWING REQUIREMENTS FOUND IN OSHA'S RESPIRATOR STANDARD (29 CFR 1910.134) AND ANSI'S STANDARD FOR RESPIRATORY PROTECTION (Z88.2-1992). FOR CONCENTRATIONS ABOVE THE TLV AND/OR PEL BUT LESS THAN 10 TIMES THESE LIMITS, A NIOSH APPROVED HALF-FACEPIECE RESPIRATOR EQUIPPED WITH APPROPRIATE CHEMICAL CARTRIDGES MAY BE USED. FOR CONCENTRATIONS GREATER THAN 10 TIMES THE TLV AND/OR PEL, CONSULT THE NIOSH RESPIRATOR DECISION LOGIC FOUND IN PUBLICATION NO. 87-116 OR ANSI Z88.2-1992.

Glove Protection:

NEOPRENE OR NITRILE RUBBER GLOVES SHOULD BE WORN.

Eye Protection:

SAFETY GLASSES WITH SIDE SHIELDS IF THE METHOD OF APPLICATION PRESENTS THE LIKELIHOOD OF EYE CONTACT.

Other Protection:

WEAR GENERAL-DUTY WORK CLOTHES AND SHOES.

SECTION X - STORAGE AND HANDLING INFORMATION

Storage Temperature: Indoors: X Outdoors: X Heated:
Refrigerated:

Minimum Temperature: 32°F Maximum Temperature: 120°F

Precautions to be taken in Handling and Storing:

DO NOT ALLOW PESTICIDE TO CONTAMINATE FOOD, FEED OR NATURAL BODIES OF WATER. ALWAYS STORE MATERIAL IN ITS ORIGINAL CONTAINER. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE.
KEEP FROM FREEZING. IF PRODUCT FREEZES ALLOW IT TO SLOWLY WARM TO ROOM TEMPERATURE AND STIR THOROUGHLY BEFORE USING.

Other Precautions:

DO NOT USE IN CONJUNCTION WITH BLEACH OR OTHER HOUSEHOLD DISINFECTANTS AS THEY MAY INACTIVATE THIS PRODUCT. KEEP OUT OF REACH OF CHILDREN. READ THE ENTIRE LABEL BEFORE USING THE PRODUCT. FOLLOW THE LABEL DIRECTIONS.

SECTION XI - REGULATORY INFORMATION

Chemical Name	CAS Number	Upper % Limit
GLYCOL ETHERS	N/A	5

Those Ingredients listed above are subject to the reporting requirements of 313 of Title III and of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

SECTION XII - REFERENCES

1. THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS AND BIOLOGICAL EXPOSURE INDICES, ACGIH, 2002.
2. OSHA PEL.

3. REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES, CCINFODisc, 2002.

4. VENDOR'S MSDS.

ALL THE COMPONENTS OF THIS PRODUCT ARE IN COMPLIANCE WITH THE TOXIC SUBSTANCES CONTROL ACT (TSCA) AND ARE EITHER LISTED ON THE TSCA INVENTORY OR OTHERWISE EXEMPTED FROM LISTING.

IRR:IRRITANT, FLAM/FLAMM:FLAMMABLE, COMB:COMBUSTIBLE, CORR:CORROSIVE CARC:CARCINOGENIC,
TOX:TOXIC, N/A:NOT APPLICABLE, N/E:NOT ESTABLISHED, COC:CLEVELAND OPEN CUP,
PMCC:PENSKY-MARTIN CLOSED CUP, TCC:TAGLIABUE CLOSED CUP,
LEL:LOWER EXPLOSION LIMIT, UEL:UPPER EXPLOSION LIMIT, NFPA:NATIONAL FIRE PROTECTION
ASSOCIATION, IARC:INTERNATIONAL AGENCY FOR THE RESEARCH ON CANCER, NTP:NATIONAL
TOXICOLOGY PROGRAM, OSHA:OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, ACGIH:AMERICAN
CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, TLV:THRESHOLD LIMIT VALUE,
PEL:PERMISSIBLE EXPOSURE LIMIT, STEL:SHORT-TERM EXPOSURE LIMIT, MLD:MILD, MOD:MODERATE,
SEV:SEVERE, MUT:MUTAGENIC, ASPHYX:ASPHYXIAN, PNOS:PARTICULATES (INSOLUBLE) NOT OTHERWISE
SPECIFIED, SDT:STANDARD DRAIZE TEST, ORL:ORAL, IHL:INHALATION, HMN:HUMAN
THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE IN LIGHT OF CURRENT
FORMULATION. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF
THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

MANTEK, DIVISION OF NCH CORP. assumes no responsibility for personal injury or property
damage caused by the use, storage, or disposal of the product in a manner not recommended
on the product label. Users assume all risks associated with such unrecommended
use,storage or disposal of the product.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

MSDS #: 36.00

Revision Date: November 25, 2002

Section 1 — Chemical Product and Company Identification

Aluminum Chloride

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Aluminum Chloride

Synonym: Hexahydrate Aluminum Trichloride

CAS#: 7784-13-6

Section 3 — Hazards Identification

Moist, white crystals.

Slightly toxic by ingestion. Body tissue irritant. Avoid all body tissue contact.

FLINN AT-A-GLANCE

Health-1

Flammability-0

Reactivity-1

Exposure-1

Storage-1

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. After vomiting, give mixture of 2 Tbs. of activated charcoal mixed with one cup of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non-flammable solid.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates.

Deliquescent. Store in a Chem-Saf bag. Store in a cool dry place.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire).

Section 9 — Physical and Chemical Properties

Moist, white crystals.
Solubility: Water.
Formula: $\text{AlCl}_3 \cdot 6\text{H}_2\text{O}$
Formula Weight: 241.43

Specific Gravity: 2.4

Section 10 — Stability and Reactivity

Avoid contact with strong acids.
Shelf life: Poor; deliquescent. Store in a Chem-Saf bag.

Section 11 — Toxicological Information

Acute effects: dust is an irritant.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: 3311 mg/kg
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (231-208-1).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Flinn--"Your Safer Source for Chemicals"

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 40.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Aluminum Nitrate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Oxidizing solids (Category 2). May intensify fire; oxidizer (H272). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Aluminum nitrate nonahydrate	7784-27-2	$\text{Al}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$	375.13	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA CODE

None

established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area and sweep up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #3. Store with amides, nitrates, nitrites, and azides.

Store in a cool, dry place. Keep and store away from clothing and combustible materials (P220). Take any precautions to avoid mixing with combustibles (P221).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White crystals. Odorless.

Boiling point: 135 °C (decomposes)

Soluble: Cold water and alcohol. Decomposes in hot water.

Melting point: 74 °C

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong reducing agents, finely powdered metals, strong acids, alkyl esters, and other organic chemicals.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

When heated to decomposition, emits toxic fumes of NOx.

ORL-RAT LD₅₀: 3671 mg/kg

Acute effects: Severe eye irritant, dizziness, convulsions.

IHL-RAT LC₅₀: N.A.

Chronic effects: N.A.

SKN-RBT LD₅₀: N.A.

Target organs: Skin.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Aluminum Nitrate. Hazard class: 5.1, Oxidizer. UN number: UN1438.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (236-751-8), RCRA D001.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 41.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Aluminum Oxide

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Aluminum oxide	1344-28-1	Al ₂ O ₃	101.96	
Synonyms: Abrarex; Almite				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

Exposure guidelines: (as total dust) PEL 15 mg/m³ (OSHA); (as respirable fraction) PEL 5 mg/m³ (OSHA)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Odorless.

Soluble: Insoluble in water. Difficult to dissolve in acids or alkali.

Boiling point: 2977 °C

Melting point: 2050 °C

Specific gravity: 3.6-3.9

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong acids and bases.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.

Chronic effects: Neurotoxic effects.

Target organs: N.A.

ORL-RAT LD₅₀: N.A.

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (215-691-6).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 42.00

Revision Date: February 6, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Aluminum Potassium Sulfate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Aluminum potassium sulfate	7784-24-9	$\text{AlK}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$	474.39	
Synonym: Alum				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White, crystalline powder. Odorless.

Melting point: 92.5 °C

Soluble: Water. Insoluble in alcohol.

Specific gravity: 1.7

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, bases, steel, aluminum, copper, and zinc. When heated to decomposition (200 °C), emits toxic sulfur trioxide fumes.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant, gastrointestinal disturbances.

ORL-RAT LD₅₀: N.A.

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

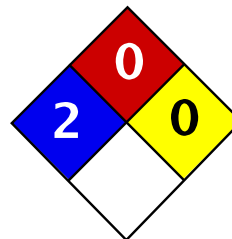
TSCA-listed, EINECS-listed (233-141-3).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: February 6, 2014



Health	2
Fire	0
Reactivity	0
Personal Protection	E

Material Safety Data Sheet

Aluminum sodium sulfate MSDS

Section 1: Chemical Product and Company Identification

Product Name: Aluminum sodium sulfate

Catalog Codes: SLA2287

CAS#: 10102-71-3

RTECS: Not available.

TSCA: TSCA 8(b) inventory: Aluminum sodium sulfate

CI#: Not applicable.

Synonym: Soda alum

Chemical Name: Aluminum sodium sulfate

Chemical Formula: $\text{AlNa}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Aluminum sodium sulfate	10102-71-3	100

Toxicological Data on Ingredients: Aluminum sodium sulfate LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of skin contact (sensitizer), of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

The substance is toxic to lungs, mucous membranes.

Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: When heated to decomposition it emits toxic fumes.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water

on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions:

Do not breathe dust. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Crystals solid.)

Odor: Not available.

Taste: Astringent. Saline.

Molecular Weight: 458.29 g/mole

Color: Colorless.

pH (1% soln/water): 7 [Neutral.]

Boiling Point: Decomposes.

Melting Point: 61°C (141.8°F)

Critical Temperature: Not available.

Specific Gravity: 1.67 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility:

Soluble in cold water, hot water.

Insoluble in methanol.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Not available.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Eye contact.

Toxicity to Animals:

LD50: Not available.

LC50: Not available.

Chronic Effects on Humans: Causes damage to the following organs: lungs, mucous membranes.

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant).

Slightly hazardous in case of skin contact (sensitizer), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Aluminum sodium sulfate

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC): R36/38- Irritating to eyes and skin.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves.

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

Section 16: Other Information

References:

- SAX, N.I. Dangerous Properties of Industrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984.
- Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987.

Other Special Considerations: Not available.

Created: 10/09/2005 03:40 PM

Last Updated: 11/06/2008 12:00 PM

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FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 44.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Aluminum Sulfate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin corrosion or irritation (Category 2). Causes skin irritation (H315).

Hazard class: Serious eye damage or irritation (Category 1). Causes serious eye damage (H318).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Aluminum sulfate hydrate	17927-65-0	$\text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$	666.42	
Synonyms: Lake alum; Aluminum trisulfate				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** seek medical attention (P337+P313).

If on skin: Wash with plenty of water (P302). Take off contaminated clothing and wash before reuse (P362).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use exhaust ventilation to keep airborne concentrations low.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White/tan powder. Odorless.

Melting point: 770 °C

Soluble: Water (36.4%). Insoluble in alcohol.

Specific gravity: 1.69

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers.

When heated to decomposition, emits toxic fumes of SO_x.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

ORL-RAT LD₅₀: 6207 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (233-135-0).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 34.00

Revision Date: June 29, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Aluminum

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Aluminum	7429-90-5	Al	26.98	
Synonyms: Aluminum foil, strips, wire, sheet				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Aluminum, as dust, is a flammable solid.

Powder Autoignition Temperature: 760 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a class D fire extinguisher or dry sand for extinction (P370+P378). Never use water.

NFPA CODE

H-0

F-3

R-1

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Contain spill. Add sand or absorbent material to the zinc dust. Gather mixture and deposit in sealed bag or container. Dispose of bag or container. Wash spill site only after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, eye protection, and face protection (P280). Wash hands thoroughly after handling.
Exposure guidelines: (as total dust) PEL 15 mg/m³ (OSHA); (as respirable fraction) TLV 1 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Silvery solid. Odorless.

Boiling point: 2467 °C

Insoluble in water. Heat is generated when fine powder and dust are mixed with water.

Melting point: 660 °C

Specific gravity: 2.70

SECTION 10 — STABILITY AND REACTIVITY

Contact with acids liberates flammable hydrogen gas. Contact with water generates heat.

Avoid contact with acids, acid chlorides, oxidizers, and halogens.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

ORL-RAT LD₅₀: N.A.

Chronic effects: Pneumoconiosis

IHL-RAT LC₅₀: N.A.

Target organs: Lungs

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option. Do not allow aluminum dust to become wet. See Section 6 for further information.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not dangerous good

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-072-3)

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: June 29, 2015

MATERIAL SAFETY DATA SHEET

Product Name: Bisque Fix

Product Code: Bisque

Manufacturer's Name: American Art Clay Co. Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Bisque Fix

Product Class: Specialty Product Product Size: 4 oz., 8 oz.

AMACO Bisque Fix

Section II – Hazardous Ingredients

Reportable Components

CAS#

Vapor Pressure
Mm Hg @ Temp

Weight
Percent

Refractory Ceramic Fibers

This product carries the CL” seal. Labeling conforms to ASTM D4236/LHAMA. See Section VI.

Section III – Physical / Chemical Characteristics

Boiling Range: NA

Specific Gravity (H2O=1): Less than 2

Vapor Density: Heavier than air.

Evaporation Rate: NA

Coating V.O.C.: NA

Material V.O.C.: NA

Appearance and Odor: Thick Paste

Section IV – Fire and Explosion Hazards Data

Flash Point: NA

Method Used: NA

Flammable Limits in Air by Volume: NA – Lower

NA – Upper

Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.

Unusual Fire and Explosion Hazards: Contact with reactive materials (e.g. aluminum) may release hydrogen gas.

Section V – Reactivity Data

Stability: Stable

Conditions to Avoid: NA

Incompatibility (Materials to Avoid): Soluble in hydrofluoric acid, phosphoric acid and concentrated alkali.

Hazardous Decomposition or Byproducts: Carbon Monoxide, carbon dioxide and smoke.

Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: Exposure may result in acute or delayed damage to the lungs. Cancer agent. Inhalation may produce cancer.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – may cause eye irritation. Rinse eyes with water for 15 minutes. If irritation persists contact physician. Skin – May cause skin irritation, rash or itching. . Wash hands with soap and water after use. Use skin cream or lotion after washing.

Skin Absorption Health Risks and Symptoms of Exposure: None. May cause skin irritation, rash or itching. Use skin cream or lotion after washing.

Ingestion Health Risks and Symptoms of Exposure: If ingested in sufficient quantity, may cause gastrointestinal disturbances. Symptoms may include nausea, vomiting or abdominal pain.

Health Hazards (Acute / Chronic): Exposure may result in acute or delayed damage to the lungs. May cause eye irritation. May cause skin irritation, rash or itching. Ingestion in sufficient quantity may cause gastrointestinal disturbances. Cancer agent. Inhalation may produce cancer. WARNING: This product contains a chemical known to the state of California to cause cancer.

Carcinogenicity: Yes – NTP Carcinogen Yes – IARC Monograph No – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Pre-existing conditions, including dermatitis, asthma or chronic lung disease may be aggravated by exposure to dried airborne product. Individuals who have a history of allergies may experience greater of amounts skin and respiratory irritation.

Emergency and First Aid Procedures: Remove to fresh air. See Section VI. Contact local poison control for further health information.

Section VII – Precautions for Safe Handling

Steps to Be Taken In Case Material Released or Spilled: Clean with paper towels, soap & water. DO not create dust. Damp mop any dust produced by hand sanding.

Wash Disposal Method: Dispose of in trash. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in Handling or Storing: When not in use or storing keep lid on jar. Otherwise product will dry out.

Other Precautions: **NOT FOR USE BY CHILDREN OR HEALTHCARE FACILITIES.**

Section VIII – Control Measures

Respiratory Protection: Use NIOSH – approved N-95 or HEPA mask when sanding. Hand sand only.

Ventilation Use adequate ventilation.

Protective Gloves: Not needed.

Eye Protection: Safety goggles or shield.

Other Protective Clothing or Equipment: NIOSH – approved N – 95 or HEPA mask. HEPA vacuum cleaner or mop.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual.

Section IX – Disclaimer

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Since conditions of use are beyond our control we make no warranties, express or implied, except for those that may be contained in our written acknowledgement.

Prepared by: L. Jenkins
1/2011

MATERIAL SAFETY DATA SHEET

Product Name: Claycrete

Product Code: Claycrete

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Rd.
Indianapolis, In 46254

Information Number: (800) 374 –1600

Emergency Number: (800) 374 –1600

Section I – Product Identification

Product Name: Claycrete

Product Class: Craft

Product Size: 1lb, 5lbs & 20lbs

Claycrete CC-1, CC-5, CC-20, Blick Mix

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
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No reportable hazardous ingredients.

Carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA

Specific Gravity (H2O=1): Less than 2

Vapor Density: Heavier than Air.

Evaporation Rate: NA

Coating V.O.C.: NA

Material V.O.C.: NA

Appearance & Odor: Dry mix.

Section IV – Fire and Explosion Hazard Data

Flash Point: NA

Method Used: NA

Flammable Limits In Air By Volume: NA – Lower

NA – Upper

Extinguishing Media: No fire hazard.

Special Firefighting Procedures: None. No fire hazard.

Unusual Fire and Explosion Hazard: No fire hazard.

Section V – Reactivity Data

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: will not occur.

Section VI _ Health Hazards

Inhalation Health Risks and Symptoms of Exposure: None
Skin and Eye Contact Health Risks and Symptoms of Exposure: None
Skin Absorption Health Risks and Symptoms of Exposure: None
Ingestion Health Risks and Symptoms of Exposure: None

Health Hazards (Acute / Chronic): None No hazardous ingredients.
Carcinogenicity: No – NTP Carcinogen No – IARC Monographs No – OSHA Regulated
Medical Conditions Generally Aggravated By Exposure: Unknown.
Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions For Safe Handling And Use

Steps To Be Taken In Case Material Is Released or Spilled: No specific steps necessary.
Waste Disposal Method: Dispose of in trash. In manufacturing, dispose of in accordance to Local, State or Federal regulations.
Precautions For Safe Handling And Storing: Always make sure bags are properly closed. Do not allow moisture to get to product or it will activate.
Other Precautions: Store in dry space.

Section VIII – Control Measures

Respiratory Protection: Not needed.
Ventilation: Not needed.
Protective Gloves: Not needed.
Eye Protection: Not needed.
Other Protective Clothing or Equipment: Not needed.
Work / Hygienic Practices: Refer to AMACO Product Encyclopedia and Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product: Artist Choice Glazes

Product Code: A Series - AP

Manufacturer's Name: American Art Clay Co. Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Artist Choice Glazes

Product Class: Ceramic Glaze

Product Size: 16 oz.

A 24 Exotic Blue, A 28 Peacock, A 62 Camel, A Sand Bar, A 43 Green Float, A 52 Old Brick, A 61 Moss Brown & A 66 Burnt Orange

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Clay	1332-58-7		
Sodium Borosilicate Frit	65997-18-4		
Inorganic Stains	Mixture		
Gum	9004-32-4		

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. This product carries the "AP" Seal. Labeling conforms to ASTM D4236.

Section III - Physical / Chemical Characteristics

Boiling Range: NA

Vapor Density: Heavier than air

Coating V.O. C.: NA

Appearance and Odor: Liquid

Specific Gravity (H2O=1): Less than 2

Evaporation Rate: NA

Material V.O.C.: NA

Section IV – Fire and Explosion Hazards Data

Flash Point: NA

Flammable Limits in Air by Volume: NA – Lower

Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.

Unusual Fire and Explosion Hazards: No fire hazard.

Method Used: NA

NA – Upper

Section V – Reactivity Data

Stability: Stable

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: None

Section VI – Health Hazards Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eyes – rinse eyes thoroughly for 15 minutes with tap water. Contact physician if irritation persists. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: n – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps to be taken in case material is released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponges. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in handling and storing: Always keep lid on container when not being used.

Other Precautions: None.

Section VIII – Control Measures

Respiratory Protection: Not necessary

Ventilation: Not necessary

Protective gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to the AMACO Product Encyclopedia and Safety Manual.

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Prepared by: L. Jenkins
2009

MATERIAL SAFETY DATA SHEET

Product Name: Artist Choice Series

Product Code: A Series (2)

Manufacturer's Name: American Art Clay Co. Inc
6060 Guion Road
Indianapolis, In 4625

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Artist Choice Glazes

Product Class: Ceramic Glaze

Product Size: 16 oz.

A 22 Aztec Turquoise, A 40 Seafoam Green, A 32 Iron Saturate

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Clay	1332-58-7		
Sodium Borosilicate Frit	65997-18-4		
Copper Carbonate	7492-68-4		
Soluble copper	1mg/m3@ CU		
Gum	9004-32-4		

This product carries the “CL” Seal for Copper. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA

Specific Gravity (H2O=1): Less than 2

Vapor Density: Heavier than air.

Evaporation Rate: NA

Coating V.O.C.: NA

Material V.O.C.: NA

Appearance and Odor: Liquid

Section IV – Fire and Explosion Hazards Data

Flash Point: NA

Method Used: NA

Flammable Limits in Air by Volume: NA – Lower

NA – Upper

Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.

Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: Product not for spray application.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly with water for 15 minutes. If irritation persists, contact physician. Skin – wash hands with soap and water after use.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Exposure may cause damage to the kidneys, liver or anemia. If swallowed get prompt medical attention.

Health Hazards (Acute / Chronic): Contains soluble copper. See above.

Carcinogenicity: N – NTP Carcinogen N- IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further information.

Section VII – Precautions for Safe Handling

Steps to be taken in case material is released or spilled. - Specific steps not necessary.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State & Federal regulations.

Precautions to be taken in handling and storing. Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: NOT FOR USE BY CHILDREN OR IN HEALTHCARE FACILITY.

Section –VIII Control Measures

Respiratory Protection: Product not for spray application.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual.

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Prepared by: L. Jenkins
2009

MATERIAL SAFETY DATA SHEET

Product Name: Crystaltex Glazes (Lead free)

Product Code: CTL Series (1)

Manufacturer's Name: American Art Clay Co. Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374 –1600

Section I – Product Identification

Product Name: Crystaltex Glaze
(Lead free)

Product Class: Ceramic Glaze

Product Size: 16 oz.

CTL 1, 3, 9, 10, 11, 13,15, 22, 31, 32, 36, 41, 42, 43, 61 & 65

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Sod. Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Flint	14808-60-7		
Gum	9004-32-4		

No reportable quantities of hazardous ingredients are present.

Carries the “AP” Seal. No hazardous ingredients. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA

Specific Gravity (H20=1): Less than 2

Vapor Density: Heavier than air.

Evaporation Rate: NA

Coating V.O.C.: NA

Material V.O.C.: NA

Appearance and Odor: Liquid

Section IV – Fire and Explosion Hazard Data

Flash Point: NA

Method Used: NA

Flammable Limits in Air BY Volume: NA – Lower

NA – Upper

Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.

Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur

Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms: None

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated By Exposure: Unknown

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps to be taken in case material is released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in handling and storing: Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: None

Section VIII – Control Measures

Respiratory Protection: Not needed.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product: Crystaltex Glazes (Lead free – Copper)

Product Code: CTL Series (2)

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Crystaltex Glazes
Lead Free / Copper

Product Class: Ceramic Glaze

Product Size: 16 oz.

CTL 12, 20, 26, 34, 35

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Copper Carbonate	7492-68-4		
Copper: ACGIH TLV 1mg/M3, OSHA PEL 1mg/M3 @ CU			
Water	7732-18-5		
Sod. Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Gum	9004-32-4		

Carries the “CL/HL” Seal. Labeling conforms to ASTM D4236. Contains copper. Refer to Section VI.

Section III – Physical / Chemical Characteristics

Boiling Range: NA
Vapor Density: NA
Coating V.O.C.: NA
Appearance and Odor: Liquid

Specific Gravity (H2O=1): Less than 2
Evaporation Rate: NA
Material V.O.C.: NA

Section IV – Fire and Explosion Hazard Data

Flash Point: NA
Flammable Limits In Air By Volume: NA – Lower
Extinguishing Media: NA
Special Firefighting Procedures: No fire hazard.
Unusual Fire and Explosion Hazards: No fire hazard.

Method Used: NA
NA – Upper

Section V – Reactivity Data

Stability: Stable
Incompatibility (Materials to Avoid): None
Hazardous Decomposition or Byproducts: Will not occur.
Hazardous Polymerization: Will not occur.

Conditions to Avoid: None

Section – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. May cause damage to the kidneys, liver or anemia. If swallowed get prompt medical attention.

Health Risks (Acute / Chronic): Contains soluble copper. See above.

Carcinogenicity: N- NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally aggravated by Exposure: Unknown

Emergency and First Aid Procedures: Contact your local poison control for further information.

Section VII – Precautions for Safe Handling

Steps to be taken in case material is released or spilled: Clean with paper towel, sponge and soapy water.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions To Be Taken in Handling and Storing: Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: **NOT FOR USE BY CHILDREN OR HEALTHCARE FACILITIES.**

VIII – Control Measures

Respiratory Protection: Not needed for brush o sponge application.

Ventilation: Not needed. Product not for spray application.

Protective Gloves: Not needed

Eye Protection: Not needed

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product Name: Crystaltex Glazes (Leaded) Product Code: CTL Series (3)

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374- 1600

Section I – Product Identification

Product Name: Crystaltex Glazes (Leaded) Product Class: Ceramic Glaze Product Size: 16 oz.

CTL 33, 50, 54

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Ceramic Frit	65997-18-4		
Lead Compd. – ACGIH TLV .05mg/M3, OSHA PEL .05mg/M3 @ PB			
Water	7732-18-5		
Clay	1332-58-7		
Flint	14808-60-7		
Gum	9004-32-4		

Carries the “CL/HL” Seal. Labeling conforms to ASTM D4236. Contains lead borosilicate Frit. **NOT FOR USE IN HOME OR HOME STUDIO.** Tableware producers are responsible n complying with FDA guidelines for lead release for tableware.

- Indicates toxic chemical (s) subject to reporting of Section 313 of Title III and of 40 CFR 372 are present.

Section III – Physical / Chemical Characteristics

Boiling Range: NA Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than Air. Evaporation Rate: NA
Coating V.O.C.: NA Material V.O.C.: NA
Appearance and Odor: Liquid

Section IV – Fire and Explosion Hazard Data

Flash Point: NA Method Used: NA
Flammable Limits In Air By Volume: NA – Lower NA – Upper
Extinguishing Media: NA
Special Firefighting Procedures: No fire hazard.
Unusual Fire and Explosion Hazards: No fire hazard

Section V – Reactivity Data

Stability: Stable
Incompatibility (Material to Avoid): None
Hazardous Decomposition or Byproducts: Will not occur.

Conditions to Avoid: None

Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of exposure: May cause damage to the lungs by inhalation of dust or mist. Cancer agent based on laboratory tests. Not for spray application.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: May be harmful if swallowed. Wash hands after use.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Cancer agent based on experimental data. May cause damage to the lungs by inhalation of dust or mist. Exposure may cause damage to the testes, difficulty in child bearing or harm to the developing fetus. Exposure may cause nervous system, kidney or bone marrow damage.

Health Hazards (Acute / Chronic): Contains lead borosilicate frit. See above.

Carcinogenicity: Yes – NTP Carcinogen Yes – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated By Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further information.

VII – Precautions for Safe Handling and Use

Steps To Be Taken In Case Material Release or Spilled: Clean with paper towels, sponge and soap and water. Damp mop after use. DO not create dust. Cleaning should be on routine basis.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions To Be Taken In Handling and Storing: Wear Apron. Always keep lid tightly on jar of product while not in use or storing. Uncovered product will dry out.

Other Precautions: **NOT FOR USE BY CHILDREN OR HEALTHCARE FACILITIES. Do not eat, drink or smoke while using. Wear apron and wash hands immediately after use. Do not use if pregnant or contemplating pregnancy.**

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. Product not for spray application.

Ventilation: Not needed for brush or sponge application. Product not for spray application.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Apron

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product: Lead Free Gloss Glazes

PRODUCT CODE: LG Series - AP

Manufacturer's Name: American Art Clay CO., Inc.

Address: 6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section 1- Product Identification

Product Name: Gloss Glazes

Product Class: Ceramic Glazes

Product Size: 16 oz., 1 lb., gal

LG. 1, 10, 11, 14, 20, 21, 23, 24, 30, 32, 34, 36, 40, 42, 48, 50, 51, 52, 54, 55, 57, 58, 59, 60, 61, 62, 63, 65, 67, 68, 760, LF 100, DC 10, TL-1, DW-11, Bennett Clear, Brickyard Clear Gloss Glaze and Class Packs

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Sodium Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Inorganic Stains	Mixture		
Gum	9004-32-4		

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. This product carries the "AP" Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: N/A

Specific Gravity (H2O=1): Less than 2

Vapor Density: Heavier than air.

Evaporation Rate: N/A

Coating V.O.C.: N/A

Material V.O.C.: N/A

Appearance and Odor: Liquid / Dry

Section IV – Fire and Explosion Hazards Data

Flash Point: N/A

Method Used: N/A

Flammable limits In Air by Volume: NA - Lower

NA - Upper:

Extinguishing Media: N/A

Special Firefighting Procedures: No fire hazards.

Unusual Fire and Explosion Hazards: None.

Section V- Reactivity Data

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin - wash hands with soap and water.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: N- NTP Carcinogen N - IARC Monographs N - OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps to be taken in case material released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State and Federal regulations.

Precautions to be taken in handling and storing. Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other precautions: None.

Section VIII – Control Measures

Respiratory Protection: When spraying or mixing dry glaze use NIOSH certified mask for dust or mist. Not needed for brush, sponge or dipping application.

Ventilation: Not needed for brush application. If spraying glazes use spray booth.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work /Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual.

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Prepared By: L. Jenkins

2009

MATERIAL SAFETY DATA SHEET

Product: Lead Free Gloss Glazes

PRODUCT CODE: LG Series - AP

Manufacturer's Name: American Art Clay CO., Inc.
Address: 6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600 Emergency Number: (800) 374-1600

Section I- Product Identification

Product Name: Gloss Glazes Product Class: Ceramic Glazes Product Size: 16 oz., 1 lb., gal

LG. 1, 10, 11, 14, 20, 21, 23, 24, 30, 32, 34, 36, 40, 42, 48, 50, 51, 52, 54, 55, 57, 58, 59, 60, 61, 62, 63, 65, 67, 68, 760, DC 10, DW-11, Bennett Clear, Brickyard Clear Gloss Glaze and Class Packs

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Sodium Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Inorganic Stains	Mixture		
Gum	9004-32-4		

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. This product carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: N/A	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air.	Evaporation Rate: N/A
Coating V.O.C.: N/A	Material V.O.C.: N/A
Appearance and Odor: Liquid / Dry	

Section IV – Fire and Explosion Hazards Data

Flash Point: N/A	Method Used: N/A
Flammable limits In Air by Volume: NA - Lower	NA - Upper:
Extinguishing Media: N/A	Special Firefighting Procedures: No fire hazards.
Unusual Fire and Explosion Hazards: None.	

Section V- Reactivity Data

Stability: Stable	Conditions to Avoid: None
Incompatibility (Materials to Avoid): None	
Hazardous Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin - wash hands with soap and water.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: No- NTP Carcinogen No - IARC Monographs No - OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps to be taken in case material released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State and Federal regulations.

Precautions to be taken in handling and storing. Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other precautions: None.

Section VIII – Control Measures

Respiratory Protection: When spraying or mixing dry glaze use NIOSH certified mask for dust or mist. Not needed for brush, sponge or dipping application.

Ventilation: Not needed for brush application. If spraying glazes use spray booth.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work /Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual.

Section IX – Disclaimer

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Prepared By: L. Jenkins
1/2014

MATERIAL SAFETY DATA SHEET

Product Name: F Series Glazes Lead Free

Product Code: F Series (1)

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: F – Series Glazes Product Class: Ceramic Glazes Product Size: 16oz.

F 1, 10, 11, 15, 20, 21, 22, 23, 25, 30, 31, 40, 41, 42, 43, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 65, 66, 70, 71

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-4		
Sod. Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Flint	14808-60-7		
Gum	9004-32-4		

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. Carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than Air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V. O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazards Data

Flash Point: NA	Method Used: NA
Flammable Limits In Air by Volume: NA - Lower	NA - Upper
Extinguishing Media: NA	
Special Firefighting Procedures: No fire hazard	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V – Reactivity Data

Stability: Stable	Conditions to Avoid: None.
Incompatibility (Materials to Avoid): None.	
Hazardous Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazards

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: E – Rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin – Wash hands with soap and water after using.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute/ Chronic): No hazardous ingredients.

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency First Aid Procedures: Contact you local poison control for further health information.

Section VII _ Precautions For Safe Handling and Use

Steps to be taken in case material released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in handling and storing always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other precautions: None.

Section VIII – Control Measures

Respiratory Protection: Not need for brush or sponge application. When spraying, use NIOSH certified mask for dust or mist.

Ventilation: No needed for normal application. When spraying glazes use spray booth.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

Section IX – Disclaimer

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

PRODUCT: F Series Glazes Lead free Copper/Cobalt Product Code: F Series (2)

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: F Series Glazes Lead free Copper/Cobalt Product Class: Ceramic Glaze Product Size: 16 oz.

F 26, 27, 47

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Copper Oxide Blend	1317-38-0		5
Copper Oxide – ACGIH TLV 1mg/M3, OSHA PEL 1 mg/M3 @ CU			
Cobalt Silicate Blue Olivine	77364		5.05
Cobalt – ACGIH TLV .02mg/M3, OSHA PEL .10mg/M3 @ CO			
Copper Carbonate	7492-68-4		5
Copper – ACGIH TLV 1mg/M3, OSHA PEL 1 mg/m3@ CU			
Water	7732-18-5		
Gum	9004-32-4		

Carries the CL/HL Seal. Labeling conforms to ASTM D4236. Contains copper or cobalt. Refer to Section VI.

Section III – Physical / Chemical Characteristics

Boiling Range: NA Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than Air Evaporation Rate: NA
Coating V.O. C.: NA Material V.O.C.: NA
Appearance and Odor: Liquid

Section IV- Fire and Explosion Hazard Data

Flash Point: NA Method Used: NA
Flammable Limits In Air By Volume: NA - Lower NA - Upper:
Extinguishing Media: NA
Special Firefighting Procedures: No fire hazard.
Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable Conditions to Avoid: None.
Incompatibility (Materials to Avoid): None.
Hazardous Decomposition or Byproducts: Will not occur.
Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None. Product not for spray application
Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes with water for 15 minutes. If irritation persists contact physician. Skin – wash with soap and water after use.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Exposure may cause damage to the kidneys or liver or anemia. If swallowed get prompt medical attention.

Health Hazard (Acute / Chronic): Contains soluble Copper/Cobalt. See above.

Carcinogenicity: N - NTP Carcinogen N - IARC Monographs N - OSHA Regulated

Medical Conditions Generally Aggravated By Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control center for further information.

Section VII – Precautions for Safe Handling

Steps to be taken if material spilled or released: Specific steps not necessary.

Waste disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in handling and storing: Always keep lid tightly on jar or moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: **Not for use by children or in healthcare facilities.**

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application.

Ventilation: Not need.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

Material Safety Data Sheet

Product Name: Majolica Gloss Decorating Colors Product Code: GDC Series

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indpls. In 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: GDC Series Product Class: Ceramic Underglaze Product Size: 2 oz., 16 oz

GDC 1, 10, 15, 20, 21, 25, 26, 27, 28, 30, 31, 32, 33, 36, 38, 40, 41, 42, 43, 45, 47, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 62, 63, 64, 65. Class Packs 1,2, & 3. Sets 1, 2 & 3.

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
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No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. Carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazards Data

Flash Point: NA	Method Used: NA
Flammable Limits In Air By Volume: NA – Lower	NA – Upper
Extinguishing Media: NA	
Special Firefighting Procedures: No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V – Reactivity Data

Stability: Stable	Conditions to Avoid: None
Incompatibility (Materials to Avoid): None	
Hazardous Decomposition or Byproducts: None	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eyes – rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin- wash hands with soap and water.

Skin Absorption Health Risks and Symptoms of Exposure: None

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic) : No hazardous ingredients.

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated By Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps To Be Taken In Case Material Spilled or Released: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State and Federal regulations

Precautions To Be Taken In Handling and Storing: Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: None

Section VIII – Control Measures

Respiratory Protection: Not needed.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product Name: Sahara High Fire Glazes (Lead Free) Product Code: HF Series (1)

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374 – 1600

Section I – Product Identification

Product Name: Sahara High Fire Glazes Product Class: Ceramic Glaze Product Size: 1 lb., 16 oz.

HF 1, 9, 10, 11, 12, 13, 14, 115, 17, 18, 120, 21, 22, 23, 24, 127, 128, 129, 30, 31, 32, 133, 134, 36, 37, 140, 142, 50, 51, 52, 53, 54, 55, 56, 57, 58, 159, 60, 161, 62, 63, 164, 165, 166, 167, 170, 1 71, TH 1, TH 2

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Sod. Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Flint	14808-60-7		
Gum	9004-32-4		

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. Carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air Evaporation Rate: NA
Coating V.O.C.: NA Material V.O.C.: NA
Appearance and Odor: Liquid / Dry

Section IV – Fire and Explosion Hazards Data

Flash Point: NA Method Used: NA
Flammable Limits In Air by Volume: NA – Lower NA – Upper
Extinguishing Media: NA
Special Firefighting Procedures: No fire hazard.
Unusual Fire and Explosion Hazard: No fire hazard.

Section V – Reactivity Data

Stability: Stable Conditions to Avoid: None
Incompatibility (Materials to Avoid): None
Hazardous Decomposition or Byproducts: Will not occur.
Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water after use.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients
Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity:: N – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information

Section VII – Precautions For Safe Handling and Use

Steps to be taken in case material released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in handling and storing. Always keep lid tightly on jar of moist product when not in use or storage. Uncovered product will dry out.

Other Precautions: None

Section VIII- Control Measures

Respiratory Protection: Not need for normal brush or sponge application. When mixing or spraying glaze use NIOSH certified mask for dust or mist.

Ventilation: Not needed for brush or sponge application. When spraying use spray booth.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEETS

Product Name: Sahara High Fire Glaze Lead Free Code: HF Series (2)

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374- 1600

Section I – Product Identification

Product Name: Sahara High Fire Glaze
Copper

Product Class: Ceramic Glaze

Product Size: 1 lb., 16 oz.

HF 125, 26, 41

Section II Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Copper Carbonate	7492-68-4		
Copper – ACGIH TLV 1mg/M3, OSHA PEL 1 mg/M3 @ CU			

Carries the “CL/HL” Seal. Labeling conforms to ASTM D4236. Contains copper. Refer Section VI.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid / Dry	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA	Method Used: NA
Flammable Limits In Air By Volume: NA – Lower	NA – Upper
Extinguishing Media: NA	
Special Firefighting Procedures: No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V – Reactivity Data

Stability: Stable
Incompatibility (Materials to Avoid): None
Hazardous Decomposition or Byproducts: Will not occur
Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None. Product not for spray application.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water after use.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Exposure may cause damage to the kidneys, liver or anemia. If swallowed get prompt medical attention.

Health Hazards (Acute / Chronic): Contains copper. See above.

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N – OSHA regulated

Medical Conditions Generally Aggravated By Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling

Steps To Be Taken In Case Material Is Released or Spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions To Be Taken In Handling and Storing: Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: **Not for use by children or in healthcare facilities.**

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. When mixing dry glaze, use NIOSH certified mask for dust or mist. Product not for spray application.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other protective clothing equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual Available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product: Lead Free Gloss Glazes

PRODUCT CODE: LG Series (1)

Manufacturer's Name: American Art Clay CO., Inc.
Address: 6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600 Emergency Number: (800) 374-1600

Section 1- Product Identification

Product Name: Gloss Glazes Product Class: Ceramic Glazes Product Size: 16 oz., 1 lb., gal

LG. 1, 10, 11, 14, 20, 21, 23, 24, 30, 34, 36, 40, 42, 48, 50, 51, 52, 54, 55, 57, 58, 59, 60, 61, 62, 63, 65, 67, 68, 760, LF 100, DC 10, TL-1, DW-11, Bennett Clear & Brickyard Clear Gloss Glaze

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Sod. Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Inorganic Stains	Mixture		
Gum	9004-32-4		

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. Carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: N/A	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air.	Evaporation Rate: N/A
Coating V.O.C.: N/A	Material V.O.C.: N/A
Appearance and Odor: Liquid / Dry	

Section IV – Fire and Explosion Hazards Data

Flash Point: N/A	Method Used: N/A
Flammable limits In Air by Volume: NA - Lower	NA - Upper:
Extinguishing Media: N/A	Special Firefighting Procedures: No fire hazards.
Unusual Fire and Explosion Hazards: None.	

Section V- Reactivity Data

Stability: Stable	Conditions to Avoid: None
Incompatibility (Materials to Avoid): None	
Hazardous Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin - wash hands with soap and water.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: N- NTP Carcinogen N - IARC Monographs N - OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions For Safe Handling and Use

Steps to be taken in case material released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State and Federal regulations.

Precautions to be taken in handling and storing. Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other precautions: None.

Section VIII – Control Measures

Respiratory Protection: When spraying or mixing dry glaze use NIOSH certified mask for dust or mist. Not needed for brush, sponge or dipping application.

Ventilation: Not needed for brush application. If spraying glazes use spray booth.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work /Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared By: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

PRODUCT: Lead Free Gloss Glaze (Copper)

Product Code: LG Series (2)

.....
Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600
.....

Section I – Product Identification

Product Name: Gloss Glazes
(Copper)

Product Class: Ceramic Glazes

Product Size: 16 oz., 1 lb., gal

LG 2, 25, 26, 27, 44, 45, 46

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Copper Carbonate	7492-68-4		
Copper: ACGIH TLV 1mg/M3, OSHA PEL 1mg/M3 @ CU			
Water	7732-18-5		
Sod. Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Flint	14808-60-7		

Carries the “HL/CL” Seal. Labeling conforms to ASTM D4236. Contains Copper. Refer to Section VI.

Section III- Physical / Chemical Characteristics

Boiling Range: NA

Specific Gravity (H2O=1): Less than 2

Vapor Density: Heavier than air.

Evaporation Rate: NA

Coating V.O.C.: NA

Material V.O.C.: NA

Appearance and Odor: Liquid / Dry

Section IV – Fire and Explosion Hazard Data

Flash Point: NA

Method Used: NA

Flammable Limits In Air By Volume: NA - Lower

NA - Upper

Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.

Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable

Conditions to Avoid: None.

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water after use..

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Exposure may cause damage to the kidneys, liver or anemia. If swallowed get prompt medical attention.

Health Hazards (Acute / Chronic): Contains soluble copper. See above.

Carcinogenicity: N - NTP Carcinogen N - IARC Monographs N - OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control center for further information.

Section VII – Precautions for Safe Handling

Steps To Be Taken In Case Material is released or spilled: Specific Steps not necessary.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State & Federal regulations.

Precautions To Be Taken In Handling and Storing: Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: **Not for use by children or in healthcare facilities.**

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. Product not for spray application.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product: Leaded Gloss Glazes Product Code: LG Series (3)

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600 Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Gloss Glazes Product Class: Ceramic Glazes Product Size: 16 oz.

LG 9, 32, 2001

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Ceramic Frit	65997-18-4		20
Lead Compd. – ACGIH TLV .05mg/M3, OSHA PEL .05 mg/M3 @ PB			
Water	7732-18-5		
Clay	1332-58-7		
Flint	14808-60-7		
Gum	9004-32-4		

Carries the “HL/CL” Seal. Labeling conforms to ASTM D4236. Contains lead borosilicate frit. **NOT FOR USE IN HOME OR HOME STUDIO.** See Section VI. Tableware producers are responsible in complying with FDA guidelines for lead release for tableware.

- Indicates toxic Chemical(s) subject to reporting requirements of Section 313 of Title III and of CFR 372 are present.

Section III – Physical / Chemical Characteristics

Boiling Range: NA Specific Gravity(H2O=1): Less than 2.
Vapor Density: Heavier than air. Evaporation Rate: NA
Coating V.O.C.: NA Material V.O.C.: NA
Appearance and Odor: Liquid

Section IV – Fire and Explosion Hazard Data

Flash Point: NA Method Used: NA
Flammable Limits In Air by Volume: NA - Lower NA - Upper
Extinguishing Media: NA
Special Firefighting Procedures: No fire hazard.
Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable Conditions to Avoid: None.
Incompatibility (Materials to Avoid): None.
Hazardous Decomposition or Byproducts: Will not occur.
Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: May cause damage to the lungs by inhalation of dust or mist. Cancer agent based on laboratory tests. Not for spray application. Refer to Health hazards for further information.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly with water for 15 minute. If irritation persists contact physician. Skin – Wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of exposure: See above. Wash hands immediately after use.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Cancer agent based on experimental data. Exposure may cause damage to the testes, difficulty with child bearing or harm to the developing fetus. Exposure may cause nervous system, kidney or bone marrow damage.

Health Hazards (Acute / Chronic): Contains lead borosilicate frit. May be harmful if swallowed. Cancer agent based on experimental data. May cause damage to the lungs by inhalation of dust or mist. Exposure may cause damage to the testes, difficulty with child bearing or harm to the developing fetus. Exposure may cause nervous system, kidney or bone marrow damage.

Carcinogenicity: Y - NTP Carcinogen N - IARC Monographs N - OSHA Regulated

Medical Conditions generally aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps To Be Taken In Case Material is released or spilled: Clean with paper towel and wet sponge. Wash with soap and water. Damp mop after use. Do not create dust. Cleaning should be done on routine basis.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken In Handling and Storing: Wear apron. Always keep lid tightly on moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: **NOT FOR USE BY CHILDREN OR IN HEALTHCARE FACILITIES. DO NOT EAT, DRINK OR SMOKE WHILE USING. WEAR APRON AND WASH HANDS IMMEDIATELY AFTER USE. DO NOT USE IF PREGNANT OR CONTEMPLATING PREGNANCY.**

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. Product not for spray application.

Ventilation: Not Needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Apron

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

Section IX – Disclaimer

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product: Lead / Cadmium Gloss Glazes

Product Code: LG Series (4)

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Gloss Glazes

Product Class: Ceramic Glazes

Product Size: 16 oz.

LG 53, 56 & 66

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Ceramic Frit	65997-18-4		49.67
Lead Compd. – ACGIH TLV .05mg/M3, OSHA PEL .05mg/M3 @ PB			
Cadmium Compd. – ACGIH TLV 10 ug/M3, OSHA PEL 5 ug/M3 @ CD			
Water	7732-18-5		
Clay	1332-58-7		
Flint	14808-60-7		
Gum	9004-32-4		

Carries the “HL/CL” Seal. Labeling conforms to ASTM D4236. Contains lead borosilicate frit and cadmium pigment.
NOT FOR USE IN HOME OR HOME STUDIO. Tableware producers are responsible in complying with FDA guidelines for lead release for tableware.

* Indicates toxic chemical(s) subject to reporting of Section 313 of Title III and of 40 CFR 372 are present.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H20=1): Less than 2.
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA	Method Used: NA
Flammable Limits In Air by Volume: NA - Lower	NA - Upper
Extinguishing Media: NA	
Special Firefighting Procedures: No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V – Reactivity Data

Stability: Stable
Conditions to Avoid: None
Incompatibility (Materials to Avoid): None.
Hazardous Decomposition or Byproducts: Will not occur.
Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: May cause damage to the lungs by inhalation of dust or mist. Cancer agent based on laboratory tests. Not for spray application. Refer to Health Hazard Data for further information.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye- rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin- wash hands with soap and water after using.

Skin Absorption Health Risks and Symptoms of Exposure: May be harmful if swallowed. Wash hands with soap and water after using.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Cancer agent based on experimental data. May cause damage to the lungs by inhalation of dust or mist. Exposure may cause damage to the testes, difficulty with child bearing or harm to the developing fetus. Exposure may cause nervous system, kidney or bone marrow damage.

Health Hazards (Acute / Chronic): Contains Lead borosilicate frit. See above.

Carcinogenicity: Yes - NTP Carcinogen Yes – IARC Monographs N - OSHA Regulated

Medical Conditions generally aggravated By Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps To Be Taken In Case Material Release or Spilled: Clean with paper towel and wet sponge. Wash with soap and water. Damp mop after use. Do not create dust. Cleaning should be on a routine basis.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken In Handling and Storing: Wear Apron. Always keep lid tightly on jar of moist product while not in use or storing. Uncovered product will dry out.

Other Precautions: **NOT FOR USE BY CHILDREN OR IN HEALTHCARE FACILITIES. DO not eat, drink or smoke while using. Wear apron and wash hands immediately after use. Do not use if pregnant or contemplating pregnancy.**

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. Product not for spray application.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Apron

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

Section IX – Disclaimer

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product: Liquid Underglaze Decorating Colors Product Code: LUG Series

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: LUG Series Product Class: Ceramic Underglazes Product Size: 2 oz., 16 oz.

LUG 1, 10, 15, 20, 21, 22, 25, 26, 30, 31, 40, 41, 42, 43, 50, 51, 52, 53, 54, 55, 56, 60, 61, 65. Also covers for the following sets: 712, 812, 108, 109, 110, 111, 408, 409, 410 & 411. Class Pack 6 – Class Pack 12

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Clay	1332-58-7		
Sod. Borosilicate Frit	65997-18-4		
Inorganic stains	Mixture		
Gum	9004-32-4		

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. Carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazards Data

Flash Point: NA	Method Used: NA
Flammable Limits In Air By Volume: NA – Lower	NA – Upper
Extinguishing Media: NA	
Special Firefighting Procedures: No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V – Reactivity Data

Stability: Stable	Conditions to Avoid: None
Incompatibility (Materials to Avoid): None	
Hazardous Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly for 15 minutes with water. Contact physician if irritation persists. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown

Emergency and First Aid Procedures: Contact you local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps to be taken in case material released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponges. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in handling and storing always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other precautions: None

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. When spraying, use NIOSH certified mask for dust or mist.

Ventilation: Not needed for brush or sponge application. When spraying use spray booth.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other protective clothing or equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia and Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product: Opalescent Glazes (lead free)

Product Code: O Series (1)

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Opalescent Glazes

Product Class: Ceramic Glaze

Product Size: 16 oz.

O 10, 11, 12, 30, 42, 52, 54, 57, 60

Section II – Hazardous Ingredients

Reportable Components

CAS#

Vapor Pressure
Mm Hg @ Temp

Weight
Percent

Water

7732-18-5

Sod. Borosilicate Frit

65997-18-4

Clay

1332-58-7

Inorganic stains, oxides

Gum

9004-32-4

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. Carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical Chemical Characteristics

Boiling Range: NA

Specific Gravity (H2O=1): Less than 2

Vapor Density: Heavier than air

Evaporation Rate: NA

Coating V.O.C.: NA

Material V.O.C.: NA

Appearance and Odor: Liquid

Section IV – Fire and Explosion Hazard Data

Flash Point: NA

Method Used: NA

Flammable Limits In Air By Volume: NA – Lower

NA – Upper

Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.

Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water after using.

Skin Absorption Health Risks and Symptoms of Exposure: None. Wash hands with soap and water after use.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions For Safe Handling and Use

Steps to be taken in case material released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in handling and storing: Always keep lid on jar of moist product while not in use Or storage.. Uncovered product will dry out.

Other Precautions: None.

Section VIII - Control Measures

Respiratory Protection: When spraying use NIOSH certified mask for dust or mist. Not needed for brush, sponge or dipping application.

Ventilation: Not needed for normal application,. If spraying use spray booth.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

Disclaimer

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product: Opalescent Glazes – Copper

Product Code: O Series (2)

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374- 1600

Section I – Product Identification

Product Name: O Series (Lead Free)
Copper

Product Class: Ceramic Glaze

Product Size: 16 oz.

O 2, 20, 21, 23, 26

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm HG @ Temp	Weight Percent
Copper Carbonate	7492-68-4		5
Copper – ACGIH TLV 1 mg/M3, OSHA PEL 1mg/M3 @ CU			
Water	7732-18-5		
Sod. Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Gum	9004-32-4		

Carries the “CL/HL” Seal. Labeling conforms to ASTM D4236. Contains Copper. Refer to Section VI.

Section III – Physical / Chemical Characteristics

Boiling Point: NA	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA	Method Used: NA
Flammable Limits In Air By Volume: NA – Lower	NA – Upper
Extinguishing Media: NA	
Special Firefighting Procedures: No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V- Reactivity Data

Stability: Stable	Conditions to Avoid: None
Incompatibility (Materials to Avoid): None	
Hazardous Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None. Product not for spray application.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water after use.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Exposure may cause damage to the kidney, liver or anemia. If swallowed get prompt medical attention.

Health Risks (Acute / Chronic): Contains copper. See above.

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated By Exposure: Unknown

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions For Safe Handling

Steps to be taken in case material is released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in handling and storing: Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: **NOT FOR USE BY CHILDREN OR IN HEALTHCARE FACILITIES.**

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. Product not for spray application

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

Section IX – Disclaimer

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product: Potter's Choice

Product Code: PC Series - AP

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Potter's Choice Product Class: Ceramic Glaze Product Size: 16 oz., gal,
25 lbs.
PC 12, 20, 23, 27, 28, 29, 30, 32, 33, 34, 35, 36, 37, 39, 43, 50, 52, 53, 55, 57, 59, 60, 62 and Class Pack

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-4		
Sodium Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Gum	9004-32-4		
Crystalline Silica	14808-60-7		

No reportable quantities of hazardous ingredients are present.

This product carries the "AP" Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H ₂ O=1): Less than 2
Vapor Density: NA	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid/Dry.	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA	Method Used: NA
Flammable Limits in Air by Volume: NA – Lower	NA – Upper
Extinguishing Media: NA	
Special Firefighting Procedures: No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V – Reactivity Data

Stability: Stable	Conditions to Avoid: None.
Incompatibility (Materials to Avoid): None	
Hazard Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks: Eye – rinse eyes with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water.

Skin Absorption Health Risks and Symptoms of Exposure: None. Wash hands with soap and water.

Ingestion Health Risks and Symptoms of Exposure: None. Carries the “AP” Seal.

Health Hazards (acute / chronic): None.

Carcinogenicity: No – NTP Carcinogen No – IARC Monographs No – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps to Be Taken In Case Material Is Released or Spilled: Clean with paper towel and sponge.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in Handling and Storing: Keep lids tight on glaze when not in use. Uncovered glaze will dry out.

Other Precautions: None.

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application.

Ventilation: Not needed.

Protective Glove: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual.

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Prepared by: L. Jenkins
1/2010

MATERIAL SAFETY DATA SHEET

Product Name: Potter's Choice (Copper)

Product Code: PC Series (2)

Manufacturer: American Art Clay Co.
606 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Potter's Choice

Product Class: Ceramic Glaze

Product Size: 16 oz.,
Gal, 25 lbs (PC 40 only)

PC 1, 2, 25, 40, 42, 46

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Copper Carbonate	7492-68-4		
Soluble Copper	1mg/m3 @ CU		

This product carries the CL Seal. Contains soluble copper. See Section VI for further information.
Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity(H2O=1) : Less than 2.
Vapor Density: NA	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA	Method Used: NA
Flammable Limits In Air By Volume: NA- Lower	NA – Upper
Extinguishing Media: NA	
Special Firefighting Procedures: No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V – Reactivity Data

Stability: Stable	Conditions to Avoid: None
Incompatibility (Materials to Avoid): None	
Hazard Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None when using brush or sponge application. When spraying, use NIOS approved mask.

Skin and Eye Contact Health Risks: Eye – Rinse eyes with tap water for 15 minutes. If irritation persists contact physician. Skin – Wash hands with soap and water.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Contains soluble copper. Exposure may cause anemia, or damage to the liver.

Health Hazards (Acute / Chronic): May be harmful if swallowed. Contains soluble copper. Exposure may cause anemia or damage to the liver.

Carcinogenicity: No – NTP Carcinogen No – IARC Monographs No – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII _ Precautions For Safe Handling and Use

Steps To Be Taken In Case Material Is Released or Spilled: Clean with paper towels , soap, water and sponge.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions To Be Taken In Handling and Storing. Keep lids tight on glaze when not in use. Wash hands after use.

Other Precautions: **Not for use by children or healthcare facilities.**

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application.

Ventilation: If spraying, use appropriate safety equipment (Spray booth, mask).

Protective Gloves: Not needed.

Eye Protection: Not needed

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia and Safety Manual. Manual available upon request.

Section IX – Disclaimer

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Prepared by: L. Jenkins
2007

MATERIAL SAFETY DATA SHEET

Product: RAKU Glazes - Lead Free

Product Code – R Series - AP

Manufacturer's Name: American Art Clay Co., Inc
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Raku Glaze

Product Class: Ceramic Glaze

Product Size: 16 oz

R 10 Clear Crackle, R 11 White Crackle, R 20 Red Crackle, R 21 Yellow Crackle

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Sodium Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Gum	9004-32-4		
Flint	14808-60-7		

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. This product carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2.
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazards Data

Flash Point: NA	Method Used: NA
Flammable Limits in Air by Volume: NA – Lower	NA – Upper
Extinguishing Media: NA	
Unusual Fire and Explosion Hazards: None.	

Section V – Reactivity Data

Stability: Stable	Conditions to Avoid: None.
Incompatibility (Materials to Avoid): None.	
Hazardous Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: No -NTP Carcinogen No – IARC Monographs No - OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aide Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps to be taken in case material is released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State and Federal regulations.

Precautions to be taken in handling and storing. Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other precautions: None

Section VIII – Control Measures

Respiratory Protection: Not need for brush, sponge or dipping application.

Ventilation: Not needed for brush or sponge application.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual.

Section IX – Disclaimer

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Prepared by: L. Jenkins
1/2014

MATERIAL SAFETY DATA SHEET

Product: Raku Glazes (Copper)

Product Code: R Series - Copper

Manufacturer: American Art Clay Co. Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

R 12 Blue Bell, R 13 Smokey Blue, R 14 Smokey Lilac, R 15 Caribbean Blue, R 16 Copper Patina, R 17 Tarnished Silver, R 18 Lustrous Copper & R 19 Copper Matte

SECTION II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Copper Carbonate	7492-68-4		
Copper ACGIH TLV 1mg/M3, OSHA PEL 1mg/M3 @ Cu			
Water	7732-18-5		
Sodium Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Flint	14808-60-7		

This product carries the “CL” Seal. Labeling conforms to ASTM D4236. Contains Copper. Refer to Section VI.

SECTION III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O. C: NA	Material V.O. C.: NA
Appearance and Odor: Liquid	

SECTION IV – Fire and Explosion Hazard Data

Flash Point: NA	Method Used: NA
Flammable Limits in Air by Volume: NA – Lower	NA – Upper
Extinguishing Media: NA	
Specific Firefighting Procedures: No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

SECTION V – Reactivity Data

Stability: Stable	Conditions to Avoid: None
Incompatibility (Materials to Avoid): None	
Hazardous Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

SECTION VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water after use.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Exposure may cause damage to the kidneys, liver or anemia. If swallowed get prompt medical attention.

Health Hazard Data (Acute / Chronic); Contains soluble copper. See above.

Carcinogenicity: No – NTP Carcinogen No – IARC Monographs No – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control center for further information.

SECTION VII – Precautions for Safe Handling

Steps to Be Taken In Case Material Is Released or Spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponges. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in Handling and Storing: Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

SECTION VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual.

SECTION IX – Disclaimer

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Prepared by: L. Jenkins
1/2014

MATERIAL SAFETY DATA SHEET

Product Name: Engobes

Product Code: SE Series

Manufacturer's Name: American Art Clay Co., Inc
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: AMACO Engobes

Product Class: Ceramic Underglazes

Product Size: 11lb

Natural Black, Jet Black, White, Dark Blue, Red Brown, Natural Brown, Dark Buff, Dark Green & Yellow

Section II – Hazardous Ingredients

Reportable Components

CAS#

Vapor Pressure
Mm Hg @ Temp

Weight
Percent

No reportable hazardous ingredients.

Carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA

Specific Gravity (H2O=1): Less than 2

Vapor Density: Heavier than air

Evaporation Rate: NA

Coating V.O.C.: NA

Material V.O.C.: NA

Appearance & Odor: Dry form.

Section IV – Fire and Explosion Hazard Data

Flash Point: NA

Method Used: NA

Flammable Limits In Air By Volume: NA – Lower

NA – Upper

Extinguishing Media: None. No fire hazard.

Special Firefighting Procedures: no fire hazard.

Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur.

Section VI – Health Hazards

Inhalation Health Risks and Symptoms of Exposure: None. Be sure to mix engobe in container supplied to prevent creating dust.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes with water for 15 minutes. If irritation persists, contact physician. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None

Ingestion Health Risks and Symptoms of Exposure: None. No hazardous ingredients.

Health Hazards (Acute / Chronic): None. No hazardous ingredients.

Carcinogenicity: No – NTP Carcinogen No – IARC Monographs No – OSHA Regulated

Medical Conditions Generally Aggravated By Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions For Safe Handling and Use.

Steps To Be Taken In Case Material Is Released or Spilled: Clean with paper towels, sponge, soap & water.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponges. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions To Be Taken In Handling and Storing: Keep lid tightly on container once mixed. Uncovered the engobe will dry out.

Other protection: None.

Section VIII – Control Measures

Respiratory Protection: Not needed. Product not for spray application.

Ventilation: Not needed. When mixing, mix in container provided by manufacturer.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product Name: SP 10 Clear Transparent

Product Code: SP 10

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indpls., In 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: SP 10 Clear Glaze Product Class: Ceramic Glaze Product Size: 16oz.

SP 10 Clear Glaze

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp.	Weight Percent
Ceramic Frit	65997-18-4		
Lead Compd. – ACGIH TLV .05mg/M3, OSHA PEL .05 mg/M3 @ PB			

Carries the “CL/HL” Seal. Labeling conforms to ASTM D4236. Contains lead borosilicate frit. **NOT FOR USE IN HOME OR HOME STUDIO.** Tableware producers are responsible in complying with FDA guidelines for lead release for tableware.

- Indicates toxic chemical (s) subject to reporting of Section 313 of Title III and of 40 CFR 372 are present.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1) Less than 2
Vapor Density: Heavier than Air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid.	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA Method Used: NA
Flammable Limits in Air By Volume: NA – Lower NA – Upper
Extinguishing Media: NA
Special Firefighting Procedures: No fire hazard.
Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable Conditions to Avoid: None.
Incompatibility (Materials to Avoid): None
Hazardous Decomposition or Byproducts: Will not occur.
Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: May cause damage to the lungs by inhalation of dust or mist. Cancer agent based on laboratory tests. Not for spray application.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: May be harmful if swallowed. Wash hands with soap and water after use.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Cancer agent based on experimental data.

Health Hazards (acute / Chronic): May be harmful if swallowed. Cancer agent based on experimental data. May cause damage to the lungs by inhalation of dust or mist. Exposure may cause damage to the testes, difficulty in child bearing or harm to the developing fetus. Exposure may cause nervous system, kidney or bone marrow damage.

Carcinogenicity: Yes – NTP Carcinogen Yes – IARC Monographs N- OSGA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps to be taken in case material release or spilled: Clean with paper towels, sponge, soap and water. Damp mop after use. Do not create dust.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in handling and storing: Wear apron. Always keep lid tightly on jar of product while not in use or storage. Uncovered product will dry out.

Other precautions: **NOT FOR USE BY CHILDREN OR HEALTHCARE FACILITIES. Do not eat, drink or smoke while using. Wear apron and wash hands after use. Do not use if pregnant or contemplating pregnancy.**

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. Product not for spray application.

Ventilation: Not needed for normal application.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Apron.

Work / Hygienic Practices: Refer to the AMACO Product Encyclopedia & Safety Manual. Manual available upon request

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Prepared by: L. Jenkins
2007

MATERIAL SAFETY DATA SHEET

Product: SP 400 White Pebble

Product Code: SP 400

Manufacturer's Name: American Art Clay Co., Inc
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: White Pebble, White Crawl Product Class: Ceramic Glaze Product Size: 4oz, 16 oz

SP 400 White Pebble

Section II- Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg@ Temp	Weight Percent
Water	7732-18-5		
Sod. Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Flint	14808-60-7		
Gum	9004-32-4		

Carries the AP Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA	Method Used: NA
Flammable Limits In Air By Volume: NA – Lower	NA – Upper
Extinguishing Media: NA	
Special Firefighting Procedures: No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V – Reactivity Data

Stability: Stable	Conditions to Avoid: None
Incompatibility (Materials to Avoid): None	
Hazardous Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI- Health Hazards

Inhalation Health Risks and Symptoms of Exposure: May cause damage to the lungs by inhalation of dust or mist. Cancer agent based on laboratory tests. Not for spray application.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – Rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water.

Skin Absorption Health Risks Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: None.

Health Hazards (Acute/Chronic): None. AP Non-toxic product.

Carcinogenicity: Y – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown

Emergency and First Aid Procedures: Contact your local poison control for further health information

Section VII – Precautions for Safe Handling and Use

Steps to Be Taken In Case Material Is released or Spilled: Clean with paper towel and wet sponge. Wash with soap and water. Damp mop after use. Cleaning should be on routine basis.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State & Federal regulations.

Precautions to be taken in handling and storing: Always keep lid tightly on moist product while not in use or storage. Uncovered product will dry out.

Other precautions: None.

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. Product not for spray application.

Ventilation: Not needed

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Apron

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L Jenkins
2007

MATERIAL SAFETY DATA SHEET

Product Name: SP 510 Fine Art Clear Product Code: SP 510 Fine Art Clear

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600 Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: SP 510 Product Class: Ceramic Glaze Product Size: Gallon

SP 510 Fine Art Glaze Clear (Leaded)

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
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Ceramic Frit	65997-18-4		
Lead Compd – ACGIH TLV .05mg/M3, OSHA PEL .05 mg/M3 @ PB			

Carries the “HL/CL” Seal. Labeling conforms to ASTM D4236. Contains lead borosilicate frit. **NOT FOR USE IN HOME OR HOME STUDIO.** See Section VI. Tableware producers are responsible in complying with FDA guidelines for lead release for tableware.

- Indicates toxic chemical(s) subject to reporting requirements of Section 313 of Title III and CFR 372 are present.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2.
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA	Method Used: NA
Flammable Limits: NA – Lower	NA – Upper
Extinguishing Media: NA	
Special Firefighting Procedures: No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V – Reactivity Data

Stability: Stable	Conditions to Avoid: NA
Incompatibility (Materials to Avoid): None	
Hazardous Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: May cause damage to the lungs by inhalation of dust or mist. Cancer agent based on laboratory tests. Not for spray application. Refer to Health Hazards for further information.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin – Wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: See above. Wash hands immediately after use.

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. Cancer agent based on experimental data. Exposure may cause damage to the testes, difficulty with child bearing or harm to the developing fetus. Exposure may cause nervous system, kidney or bone marrow damage.

Health Hazards (Acute / Chronic): Contains lead borosilicate frit. May be harmful if swallowed. Cancer agent based on experimental data. May cause damage to the lungs by inhalation of dust or mist. Exposure may cause damage to the testes, difficulty with child bearing or harm to the developing fetus. Exposure may cause nervous system, kidney or bone marrow damage.

Carcinogenicity: Y – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps To Be Taken In Case Material Is Released or Spilled: Clean with paper towel and wet sponge. Wash with soap and water. Damp mop after use. Do not create dust. Cleaning should be on a routine basis.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State and Federal regulations.

Precautions To Be Taken In Handling and Storing: Wear apron. Always keep lid tightly on moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: **NOT FOR USE BY CHILDREN OR IN HEALTHCARE FACILITIES. WEAR APRON AND WASH HANDS IMMEDIATELY AFTER USE. DO NOT EAT, DRINK OR SMOKE WHILE USING. DO NOT USE IF PREGNANT OR COMTEMPLATING PREGNANCY.**

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. Product not for spray application.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Apron.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual Available upon request.

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Prepared by: L. Jenkins
2007

Material Safety Data Sheet

Product Code: (New) SS Series

Manufacturer's Name: American Art Clay Co. Inc.

6060 Guion Road

Indianapolis, IN 46264

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Sun Stroke Brilliant Underglazes Product Class: Ceramic Underglazes
Lead Free

Product Size: 2 oz, 16 oz

SS 201 Tulip Red, SS 202 Snapdragon, SS 203 Marigold Orange, SS 204 Daffodil Yellow, SS 205 Zinnia Orange, SS 206 Clover Green, Set and Class Pack

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Clay	1332-58-7		
Sod. Borosilicate Frit	65997-18-4		
Inorganic stains	Mixture		
Gum	9004-32-4		

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. Carries the “AP” Seal. Labeling conforms to ASTM D 4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazards Data

Flash Point: NA Method Used: NA
Flammable Limits in Air by Volume: NA – Lower NA – Upper
Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.
Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable
Conditions to avoid: None
Incompatibility (Materials to Avoid): None
Hazardous Decomposition or Byproducts: Will not occur.
Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eyes – rinse eye thoroughly for 15 minutes with water. Contact physician if irritation persists. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N- OSHA
Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps to be taken in case material released or spilled: Specific steps not necessary.

Waste Disposal Methods: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in handling and storing: Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: None.

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. When spraying, use NIOSH certified mask for dust or mist.

Ventilation: Not needed for brush or sponge application. If spraying, use spray booth.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective clothing or equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia and Safety Manual. Manual available upon request.

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Prepared By: L. Jenkins
8/2005

MATERIAL SAFETY DATA SHEET

Product Name: Stone Texture Glazes (Lead free)

Product Code: ST Series (1)

Manufacturer's Name: American Art clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: ST Series (Lead free)

Product Class: Ceramic Glaze

Product Size: 16 oz.

ST 20, 30, 33, 51, 53, 55, 56, 65

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Sod. Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Flint	14808-60-7		
Gum	9004-32-4		

No reportable quantities of hazardous ingredients are present.

Carries the “AP” Seal. Labeling conforms to ASTM D4236. No hazardous ingredients. Decorative use only.

Section III – Physical /Chemical Characteristics

Boiling Range: NA

Specific Gravity (H2O=1): Less than 2.

Vapor Density: NA

Evaporation Rate: NA

Coating V.O.C.: NA

Material V.O.C.: NA

Appearance and Odor: Liquid

Section IV – Fire and Explosion Hazard Data

Flash Point: NA

Method Used: NA

Flammable Limits In Air by Volume: NA – Lower

NA – Upper

Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.

Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes with water for 15 minutes. If irritation persists contact physician. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: None.

Health Hazards (Acute / Chronic): None

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII- Precautions for Safe Handling

Steps To Be Taken In Case Material Released or Spilled: Clean with paper towels, sponge, soap and water. Rinse sponge.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions To Be Taken In Handling and Storing: Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: None.

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. Product not for spray application.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product Name: Stone Texture Glazes (Copper) Product Code: ST Series (2)

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: ST Series (Copper)

Product Class: Ceramic Glaze

Product Size: 16 oz.

ST 23, 25, 40, 42

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Copper Carbonate	7934-68-4		
Copper – ACGIH TLV 1mg/M3, OSHA PEL 1mg/M3 @ CU			
Water	7732-18-5		
Sod. Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Gum	9004-32-4		

Carries the “CL/HL” Seal. Labeling conforms to ASTM D4236. Contains copper. Refer to Section VI. Decorative use only.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2.
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA	Method Used: NA
Flammable Limits in Air By Volume: NA – Lower	NA – Upper
Extinguishing Media: NA	
Special Firefighting Procedures: No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V – Reactivity Data

Stability: Stable	Conditions to Avoid: None
Incompatibility (Materials to avoid): None	
Hazardous Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – Rinse eyes with water for 15 minutes. If irritation persists contact physician. Skin – Wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None

Ingestion Health Risks and Symptoms of Exposure: May be harmful if swallowed. May cause anemia, kidney or liver damage. Get prompt medical attention.

Health Hazards (Acute / Chronic): Contains soluble copper. See above.

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated By Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further medical attention.

Section VII – Precautions for Safe Handling

Steps To Be Taken In Case of Material Released or Spilled: Clean with paper towels, soap and water. Rinse sponge.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be Taken In Handling and Storing: Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other Precautions: Do not eat, drink or smoke while using product. **Product not for use by children or in healthcare facilities.**

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. Product not for spray application.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

Section IX – Disclaimer

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product: TL-1 Low Fire Texturizer

PRODUCT CODE: TL Series - AP

Manufacturer's Name: American Art Clay CO., Inc.

Address: 6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section 1- Product Identification

Product Name: Low Fire Texturizer

Product Class: Ceramic Glazes

Product Size: 16 oz

TL-1

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-5		
Sodium Borosilicate Frit	65997-18-4		
Clay	1332-58-7		
Gum	9004-32-4		

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. This product carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: N/A

Specific Gravity (H2O=1): Less than 2

Vapor Density: Heavier than air.

Evaporation Rate: N/A

Coating V.O.C.: N/A

Material V.O.C.: N/A

Appearance and Odor: Liquid / Dry

Section IV – Fire and Explosion Hazards Data

Flash Point: N/A

Method Used: N/A

Flammable limits In Air by Volume: NA - Lower

NA - Upper:

Extinguishing Media: N/A

Special Firefighting Procedures: No fire hazards.

Unusual Fire and Explosion Hazards: None.

Section V- Reactivity Data

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Skin - wash hands with soap and water.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: No- NTP Carcinogen No - IARC Monographs No - OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps to be taken in case material released or spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State and Federal regulations.

Precautions to be taken in handling and storing. Always keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other precautions: None.

Section VIII – Control Measures

Respiratory Protection: When spraying or mixing dry glaze use NIOSH certified mask for dust or mist. Not needed for brush, sponge or dipping application.

Ventilation: Not needed for brush application. If spraying glazes use spray booth.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work /Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual.

Section IX – Disclaimer

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Prepared By: L. Jenkins
1/2014

Material Safety Data Sheet

Product Name: Teacher's Palette

Product Code: TP Lead Free

Manufacturer's Name: American Art Clay Co., Inc.

6060 Guion Road

Indianapolis, IN 46254

Information No.: (800) 374-1600

Emergency No.: (800)-374-1600

Section I – Product Identification

Product Name: TP Series

Product Class: Ceramic Glaze

Product Size: 8 oz, pints, gallon

TP 1 Coal Black, TP 11 Cotton, TP 15 Gray, TP 20 Sky Blue, TP 21 Midnight Blue, TP 22 Blue Green, TP 30 Carmel, TP 32 Fudge Brown, TP 40 Mint Green, TP 41 Frog Green, TP 51 Grape, TP 52 Raspberry, TP 53 Pig Pink, TP 58 Brick Red, TP 60 Lemon, and TP 64 Carrot. Class Packs

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
Water	7732-18-4		
Sodium Borosilicate Frit	65997-18-4		
Clay	1332-18-7		
Flint	14808-60-7		
Gum	9004-32-4		

No hazardous ingredients. This product carries the “AP” seal. Labeling conforms to ASTM D4236.

Section III – Physical/Chemical Characteristics

Boiling Range: NA

Specific Gravity (H2) =1): Less than 2

Vapor Density: NA

Evaporation Rate: NA

Coating V.O.C.: NA

Material V.O.C.: NA

Appearance and Odor: 16 colors. Liquid.

Section IV – Fire and Explosion Hazards Data

Flash Point: NA

Method Used: NA

Flammable Limits in Air by Volume: NA- Lower

NA – Upper

Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.

Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable

Conditions to Avoid: None

Incompatibility (materials to Avoid): None.

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur.

Section VI – Health Hazards Data

Inhalation Health Risks and Symptoms of Exposure: No hazards.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – Rinse eyes thoroughly with water for 15 minutes. Skin – Wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None. Wash hands with soap and water after use.

Ingestion Health Risk and Symptoms of Exposure: None.

Health Hazards (Acute/Chronic): None. AP Non-toxic.

Carcinogenicity: No – NTP Carcinogen No – IARC Monographs No – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling and Use

Steps to be taken in Case Material is released or spilled: Clean with paper towel and wet sponge.

Waste disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions to be taken in handling and storing: Keep in original container and close lid tightly.

Other Precautions: None.

Section VIII _ Control Measures

Respiratory protection: Not needed.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work/Hygienic Practices: Refer to AMACO Product Safety Encyclopedia.

Section IX – Disclaimer

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**Prepared by: L. Jenkins
1/2012**

MATERIAL SAFETY DATA SHEET

Product: Velvet Underglazes

Product Code: V Series

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: V Series

Product Class: ceramic Underglazes

Product Size: 2 oz., 16 oz.

V 301, 302, 303, 304, 308, 309, 310, 313, 314, 315, 316, 317, 318, 320, 321, 322, 323, 325, 326, 327, 328, 332, 333, 334, 336, 341, 343, 345, 350, 353, 354, 355, 356, 357, 360, 361, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, & 391. Also sets #1, #2 & #3. Class pack 6, Class Pack 12-#1

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
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No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. Carries the “AP” Seal. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA

Specific Gravity(H2O=1): Less than 2

Vapor Density: Heavier than air.

Evaporation Rate: NA

Coating V.O.C.: NA

Material V.O.C.: NA

Appearance and Odor: Liquid

Section IV – Fire and Explosion Hazards Data

Flash Point: NA

Method Used: NA

Flammable Limits In Air By Volume: NA – Lower

NA – Upper

Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.

Unusual Fire and Explosion Hazards: No fire hazard.

Section – V – Reactivity Data

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur.

Section VI – Health Hazards Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Risks and Symptoms of Exposure: Eye – rinse eyes with water for 15 minutes. Contact physician if irritation persists. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None. Wash hands with soap and water after use.

Ingestion Health Risks and Symptoms of Exposure: None. Carries the “AP” Seal.

Health Hazards (Acute / Chronic): None.

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions For Safe Handling and Use

Steps To Be Taken In Case Material is Released or Spilled: Clean with paper towel and wet sponge.

Waste Disposal Method: Dispose of paper towels in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions To Be Taken In Handling and Storing: Keep lid tightly on jar of moist product while not in use or storage. Uncovered product will dry out.

Other precautions: None.

Section VIII – Control Measures

Respiratory Protection: Not needed for brush or sponge application. If spraying use a NIOSH certified mask for dust or mist.

Ventilation: Not needed for brush sponge application. If spraying use a spray booth.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia and Safety Manual. Manual available upon request.

Section IX – Disclaimer

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Prepared by: L. Jenkins
2005

MARTERIAL SAFETY DATA SHEET

Product Name: Gum Solution

Product Code: Gum Solution

Manufacturer's Name: American Art Clay Co. Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Gum Solution Product Class: Formulated Product Product Size: 16oz., 1 gal.

AMACO Gum Solution

Section II – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
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No reportable quantities of hazardous ingredients.

Carries the “AP” Seal. Labeling conforms to ASTM D 4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA	Method Used: NA
Flammable Limits In Air BY Volume: NA – Lower	NA – Upper
Extinguishing Media: NA	
Special Firefighting Procedures: `No fire hazard.	
Unusual Fire and Explosion Hazards: No fire hazard.	

Section V – Reactivity Data

Stability: Stable	Conditions to Avoid: None
Incompatibility (Materials to Avoid): None.	
Hazardous Decomposition or Byproducts: Will not occur.	
Hazardous Polymerization: Will not occur.	

Section VI - Health Hazards

Inhalation Health Risks and Symptoms of Exposure: None

Eye and Skin Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes with water for 15 minutes. If irritation persists, contact physician. Skin – wash hands with soap and water.

Skin Absorption Health Risks and Symptoms of Exposure: None

Ingestion Health Risks and Symptoms of Exposure: None

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: No – NTP Carcinogen No – IARC Monographs No – OSHA
Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact you local poison control for further health information.

Section VII – Precautions For Safe Handling and Use

Steps To Be Taken In Case Material Released or Spilled: No specific steps necessary.

Waste Disposal Method: Dispose of in trash. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions To Be Taken In Handling and Storing: Always keep lid tightly on container. Uncovered material will dry out.

Other Precautions: None.

Section VIII – Control Measures

Respiratory Protection: Not needed.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins

2005

MATERIAL SAFETY DATA SHEET

Product Name: AMACO Kiln Wash

Product Code: Wash

Manufacturer's Name: American Art Clay Co., Inc.

6060 Guion Road

Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: AMACO Kiln Wash
40lbs

Product Class: Formulated

Product Size: 1lb, 4lbs &

AMACO Kiln Wash

Section II – Hazardous Ingredients

Reportable Components

CAS #

Vapor Pressure

Weight

Mm Hg @ Temp

Percent

No reportable quantities hazardous ingredients are present.

No hazardous ingredients. Carries the “AP” Seal for the 1lb. and 4lbs. containers Carries the “CL Seal” for the 40lbs. Labeling conforms to ASTM D4236.

Section III – Physical / Chemical Characteristics

Boiling Range: NA

Specific Gravity (H2O=1): Less than 2.

Vapor Density: Heavier than air.

Evaporation Rate: NA

Coating V.O.C.: NA

Material V.O.C.: NA

Appearance and Odor: Dry.

Section IV _ Fire and Explosion Hazard Data

Flash Point: NA

Method Used: NA

Flammable Limits In Air By Volume: NA – Lower

NA – Upper

Extinguishing Media: NA

Special Firefighting Procedures: None. No fire hazard.

Unusual Fire and Explosion Hazards: None. No fire hazard.

Section V – Reactivity Data

Stability: Stable

Conditions To Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur

Product Code: Wash

Page 2

Section VI Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse thoroughly with water for 15 minutes. If irritation persists, contact physician. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: NTP Carcinogen – No IARC Monographs – No OSHA Regulated – NO

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison Control for further health information.

Section VII – Precautions For Safe Handling and Use

Steps To Be Taken In Case Material Is Released or Spilled: Specific steps not necessary.

Waste Disposal Method: Dispose of contaminated material in trash. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions To Be Taken In Handling and Use: No specific steps necessary.

Other Precautions: Do not create dust.

Section VIII – Control Measures

Respiratory Protection: Not needed.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia and Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins

2005

MATERIAL SAFETY DATA SHEET

Product Name: Rub N Buff Metallic Finishes

Product Code: RNB

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: Rub N Buff

Product Class: Crafts

Product Size: ½ oz.. 1 gal.

Gold Leaf, Olive Gold, Antique White, Spanish Copper, Silver Leaf, Autumn Gold, Sapphire, Amethyst, Pewter, Patina, Antique Gold, Chinese Red, Pearl Blue, Ebony, Grecian Gold, Emerald, Jade, European Gold, Turquoise, Ruby

Section II – Hazardous Ingredients

Reportable Components	CAS#	PEL.TLV Mm Hg @ Temp	Max % Percent
Varnish	Mixture		16-44
Xylene		100ppm	
Petroleum Distillate Heavy		100ppm (4)	
Petroleum Distillate		100ppm (4)	
Solvent	64742-47-8	100ppm	18-41
Inorganic Stain	7440-50-8	1mg/M3 @ CU	

* Indicates toxic Chemical(s) subject to reporting requirements of Section 313 of Title III and 40 CFR 372 are present

. This product carries the "HL/CL Seal". Labeling conforms to ASTM D4236. Contains Hydrocarbons, soluble copper (Euro. Gold, Gold, Pewter, Spanish Copper). See Section VI. **NOT FOR USE BY CHILDREN OR IN HEALTHCARE FACILITIES.** Combustible.

Section III – Physical / Chemical Characteristics

Boiling Point: 212°F to 375°F
Vapor Density: Heavier than air
Coating V.O.C.: NA
Appearance & Odor: Paste

Melting Point: NA
Specific Gravity (H2O=1): Less than 2
Material V.O.C.: 26.5 – 64.2%

Section IV – Fire and Explosion Hazard Data

Flash Point (Method) 103°F (lowest flashing component) Method Used: T.C.C.
Explosion Limits In Air (%by volume): Flammable – Lower: .08 Upper: 7
Extinguishing Media: Foam, CO2, Other
Fire Fighting Procedures: NFPA Class B Extinguisher, CO2, Dry Chemical or foam for Class II liquid fires.
Combustible: Contains Hydrocarbons.
Unusual Fire and Explosion Hazards: Keep away from heat, sparks and open flame.
Auto-Ignition Temperature: NA

Section V – Reactivity Data

Stability: Stable

Conditions To Avoid: Heat, Sparks and Open Flame

Incompatibility (Materials to Avoid) : None

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: May produce carbon monoxide and oxides of nitrogen when heated to decomposition.

Section VI – Health Hazards

Primary Routes of Entry: If skin irritation occurs, wash hands with soap and water. Apply skin cream.

Eyes: Rinse eyes thoroughly with water for 15 minutes. If irritation persists contact physician. Ingestion: If ingested contact physician immediately.

Effects and Symptoms of Acute Exposure: Eye irritation. Skin Irritation. If swallowed may damage the liver or kidneys (Euro. Gold, Pewter, Span. Copper)

Effects and Symptoms of Chronic Exposure: See above

Carcinogen Listing: N – NTP

N – IARC

N – OSHA

Medical Conditions Usually Aggravated by Exposure: Unknown.

First Aid Measures: Contact you local poison control for further health information.

Section VII – Spill or Leak Procedures

Precautions to Be taken in Handling and Storage: Always keep lid tight on the tube. Use needle tool or toothpick to make opening. Place saran wrap over tip prior to closing with cap store in zip lock bag. Cracked lids will allow for evaporation of medium.

Steps to Be Taken In Case Material is Spilled: Use mineral spirits. Wash hands with soap and water. Wipe with paper towel. Dispose of paper towel in trash. In manufacturing, dispose of in accordance to Local, State & Federal regulations.

Waste Disposal Method: Dispose of in trash. Avoid heat, sparks and open flame.

Section VIII – Protective Equipment / Control Measures

Respiratory and Ventilation Requirements: Adequate cross ventilation due to vapors.

Other Protective Equipment (gloves, Goggles, etc.): Not needed. If allergic to petroleum solvents use rubber gloves.

Work / Hygiene Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins

2007

MATERIAL SAFETY DATA SHEET

Product Name: SuspendAid Product Code: SuspendAid

Manufacturer's Name: American Art Clay Co. Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600 Emergency Number: (800) 374-1600

Section I – Product Identification

Product Name: SuspendAid Product Class: Ceramic Specialty Product Size: 16 oz.

AMACO SuspendAid

Section II _ Hazardous Ingredients

Reportable components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
-----------------------	------	--------------------------------	-------------------

No reportable quantities of hazardous ingredients.

This product carries the “AP” seal. Labeling conforms to ASTM D4236/LHAMA.

Section III – Physical/Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Less than 2
Vapor Density: Heavier than air.	Evaporation Rate: NA
Coating V.O.C.: NA	Material V.O.C.: NA
Appearance and Odor: Liquid	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA Method Used: NA
Flammable Limits in Air by Volume: NA – Lower NA – Upper
Extinguishing Media: NA
Special Firefighting Procedures: No fire hazard.
Unusual Fire and Explosion Hazards: No fire hazard.

Section V – Reactivity Data

Stability: Stable Conditions to Avoid: None
Incompatibility (Materials to Avoid): None
Hazardous Decomposition or Byproducts: Will not occur.
Hazardous Polymerization: Will not occur.

Section VI – Health Hazards

Inhalations Health Risks and Symptoms of Exposure: None.

Eye and Skin Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes with water for 15 minutes. If irritation persists, contact physician. Skin – wash hands with soap and water.

Skin Absorption Health Risks and Symptoms of Exposure: None

Ingestion Health Risks and Symptoms of Exposure: None

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: N – NTP Carcinogen N – IARC Monographs N – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII - Precautions for safe Handling and Use

Steps to Be Taken In Case Material Released or Spilled: No specific steps necessary.

Waste Disposal Method: Dispose of in accordance to Local, State or Federal regulations.

Precautions to Be Taken in Handling and Storing: Always Keep lid tightly on container. Uncovered material will dry out.

Other Precautions: None

Section VIII – Control Measures

Respiratory Protection: Not needed.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual.

Section IX - Disclaimer

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Prepared by: L Jenkins
1/2014

MATERIAL SAFETY DATA SHEET

Product Name: AMACO Wax Resist

Product Code: Wax Resist

Manufacturer's Name: American Art Clay Co., Inc.
6060 Guion Road
Indianapolis, IN 46254

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section 1 – Product Identification

Product Name: Wax Resist

Product Class: Miscellaneous

Product Size: 16oz. , gal.

AMACO Wax Resist

Section 11 – Hazardous Ingredients

Reportable Components	CAS#	Vapor Pressure Mm Hg @ Temp	Weight Percent
-----------------------	------	--------------------------------	-------------------

No reportable quantities of hazardous ingredients are present.

No hazardous ingredients. Non-toxic. Carries the AP Seal.

Section III – Physical / Chemical Characteristics

Boiling Range: NA

Specific Gravity (H₂O=1) : Less than 2

Vapor Density: Heavier than air.

Evaporation Rate: NA

Coating V.O.C.: NA

Material V. O. C. : NA

Appearance and Odor: Liquid

Section IV – Fire and Explosion Hazard Data

Flash Point: NA

Method Used: NA

Flammable Limits In Air By Volume: NA – Lower

NA – Upper

Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.

Unusual Fire and Explosion Hazards: None. No fire hazard.

Section V – Reactivity Data

Stability: Stable

Conditions To Avoid: None.

Incompatibility (Materials to Avoid): None.

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: None.

Product Code: Wax Resist

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – Flush eyes for 15 minutes with tap water. If irritation persists contact physician. Skin – wash hands with soap and water.

Skin Absorption Health Risks and Symptoms of Exposure: None.

Ingestion Health Risks and Symptoms of Exposure: No hazardous ingredients.

Health Hazards (Acute / Chronic): No hazardous ingredients.

Carcinogenicity: NTP Carcinogen – No IARC Monographs: No OSHA Regulated: No

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions for Safe Handling

Steps To Be Taken In Case Material is Released or Spilled. Clean with paper towels.

Waste Disposal Method: Dispose of paper towels in trash. In manufacturing, dispose of in accordance to Local, State or Federal regulations.

Precautions To Be Taken In Handling and Storing: Always keep lid tightly on jar while not in use. Uncovered product will dry out.

Other Precautions: None.

Section VIII – Control Measures

Respiratory Protection: Not needed.

Ventilation: Not needed.

Protective Gloves: Not needed.

Eye Protection: Not needed.

Other Protective Clothing / Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia and Safety Manual. Manual available upon request.

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Prepared by: L. Jenkins
2005

MATERIAL SAFETY DATA SHEET

Product Name: Wheat Paste Powder

Product Code: Paper Mache

Section I – Manufactured Identification

Manufacturer: American Art Clay Co.
6060 Guion Road
Indianapolis, IN 46254

Product Size: 8 oz, 3 lbs.

Telephone Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section II – Hazardous Ingredients / SARA III Ingredients

Reportable Components	CAS Numbers	Vapor Pressure Mm/hg @ Temp	Weight Percent
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*** No reportable quantities of hazardous ingredients are present ***

Carries the “AP “Seal. Labeling forms to ASTM D-42236. Contains wheat, may produce an allergic reaction. Biodegradable

Section III – Physical / Chemical Characteristics

Boiling Range: NA	Specific Gravity (H2O=1): Heavier than air
Vapor density: Heavier than air.	Evaporation Rate: NA
Solubility in Water: Yes	Material V.O.C.: 0.00 lb/gal
Appearance and Odor: White powder. Odorless.	

Section IV – Fire and Explosion Hazard Data

Flash Point: NA	Method Used: NA
Flammable Limits in Air by Volume: Lower: NA	Upper: NA
Extinguishing Media: NA	
Special Firefighting Procedures: Not necessary.	
Unusual Fire and Explosion Hazards: NA	

Section V – Reactivity Data

Stability: Stable	Conditions to Avoid: Creating dust.
Incompatibility (materials to avoid): Strong oxidizing agents.	
Hazardous Decomposition or Byproducts: None known.	
Hazardous Polymerization: Will not occur.	

Section VI – Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: Move to fresh air. Call doctor if allergic signs, particularly in the respiratory tract, are observed.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye contact: Rinse thoroughly with water, also under the eyelids. Skin: Rinse with water.

Ingestion Health Risks and Symptoms of Exposure: Consult a physician if necessary.

Health Hazards (acute and chronic): See above information.

Carcinogenicity: NTP: No IARC: No OSHA: No ACGIH: No

Section VII – Precautions for Safe Handling and Use

Handling: Good ventilation. Do not create dust.

Storage: Keep unused portion in sealed container. Use within one week after mixing with water.

Clean Up Steps: Use soap and water.

Disposal Method: Dispose of in compliance with Local, State and or Federal regulations.

VIII – Control Measures

Respiratory Protection: Not needed with adequate ventilation.

Protective Gloves: Not needed.

Eye Protection: Not needed when following manufacturer's mixing directions.

IX – Disclaimer

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties expressed or implied, except those that may be contained in our written acknowledgement.

Prepared By: L. Jenkins

Date of preparation: 1/2014

MATERIAL SAFETY DATA SHEET

FILE NUMBER:

NAME OF PRODUCT: AMERICANA ACRYLIC LATEX PAINT

MSDS DATE: 04/14/05

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: AMERICANA ACRYLIC PAINT
SYNONYMS: ACRYLIC LATEX PAINT
PRODUCT CODES: DAO1 THROUGH DAO69, DAO73 THROUGH DAO99, DA100 THROUGH DA200, DA203 THROUGH DA263

MANUFACTURER: DECOART, INC.
ADDRESS: JUNCTION HWYS 150 & 27; STANFORD, KY 40484
DOMESTIC EMERGENCY PHONE: CHEMTREC – (800) 424-9300
OTHER CALLS: (606) 365-3193
FAX PHONE: (606) 365-9739
CHEMICAL NAME: MIXTURE
CHEMICAL FAMILY: PAINT – NON-HAZARDOUS
CHEMICAL FORMULA: MIXTURE
PRODUCT USE: ART AND CRAFT PAINT FOR DECORATIVE PAINTING PROJECTS.

PREPARED BY: R. MARTIN
MSDS PREPARATION DATE: 04/14/05

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: This product contains no materials in sufficient quantities known to be toxic or injurious to humans or to cause acute or chronic health problems.

CAS NO. % WT % VOL SARA 313 REPORTABLE

ppm mg/m³

OSHA PEL-TWA: N/A
OSHA PEL STEL : N/A
OSHA PEL CEILING: N/A
ACGIH TLV-TWA: N/A
ACGIH TLV STEL: N/A
ACGIH TLV CEILING: N/A

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

ROUTES OF ENTRY: Inhalation: No; Skin: Yes; Eyes: Yes; Ingestion: Yes

POTENTIAL HEALTH EFFECTS

EYES: May exhibit redness and primary irritation.
SKIN: Some irritation may occur.
INGESTION: May cause discomfort.
INHALATION: None expected.
ACUTE HEALTH HAZARDS: None known or expected for this product.
CHRONIC HEALTH HAZARDS: None known or expected for this product.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None known.
CARCINOGENICITY
OSHA: ACGIH: NTP: IARC: None known.
OTHER: None known.

Product Number: DAO1 THROUGH DAO69, DAO77 THROUGH DAO99, DA100 THROUGH DA116, DA128 THROUGH DA201, DA206 THROUGH DA243

Date of Preparation: 04/14/05

SECTION 4: FIRST AID MEASURES

EYES: Flush with clean water for 15 minutes.
SKIN: Wash with soap and water.
INGESTION: Induce vomiting and consult a physician.
INHALATION: N/A
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No significant hazards known.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, UPPER: N/A
(% BY VOLUME) LOWER: N/A
FLASH POINT:
F: N/A
C: N/A
METHOD USED: N/A
AUTOIGNITION TEMPERATURE:
F: N/A
C: N/A

NFPA HAZARD CLASSIFICATION

HEALTH: 0
FLAMMABILITY: 0
REACTIVITY: 0
OTHER: N/A

HMIS HAZARD CLASSIFICATION

HEALTH: 0
FLAMMABILITY: 1
REACTIVITY: 0
PROTECTION: A

EXTINGUISHING MEDIA:

SPECIAL FIRE FIGHTING PROCEDURES:

Water spray, dry chemical, foam, CO₂.
Water or foam may cause frothing if directed into containers or burning liquid. Fire fighters should wear protective clothing. Use water spray to keep fire exposed containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Burning plastic containers may emit hazardous fumes.

HAZARDOUS DECOMPOSITION PRODUCTS:

Usual products of combustion: CO₂, CO and possibly Acrolein.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Collect and dispose of in accordance with local, state and federal regulations.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Store away from high temperatures and flames.
OTHER PRECAUTIONS: None anticipated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

VENTILATION : Local exhaust recommended.

RESPIRATORY PROTECTION: None generally required.

EYE PROTECTION: Safety glasses.

SKIN PROTECTION: None normally required.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eye wash station should be available.

WORK HYGIENIC PRACTICES: Wash hands prior to smoking or eating.

EXPOSURE GUIDELINES: N/A

Product Number: DAO1 THROUGH DAO69, DAO77 THROUGH DAO99, DA100
THROUGH DA116, DA128 THROUGH DA201, DA206 THROUGH DA243

Date of Preparation: 04/14/05

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colored Viscous Liquid.
ODOR: Very low odor product. Not offensive.
PHYSICAL STATE: Viscous liquid.
pH AS SUPPLIED: 7.0 – 9.0
pH (Other): N/A
BOILING POINT:
F: 100°F
C: 212°C
MELTING POINT:
F: 32°F
C: 0°C
FREEZING POINT:
F: 32°F
C: 0°C
VAPOR PRESSURE (mmHg): 24
@
F: 77°F
C: 25°C
VAPOR DENSITY (AIR = 1): 0.18
@
F: 122°F
C: 50°C
SPECIFIC GRAVITY (H₂O = 1): 1.28 – 1.43
@
F: 77°F
C: 25°C
EVAPORATION RATE:
BASIS (=1):
SOLUBILITY IN WATER: Infinite.
PERCENT SOLIDS BY WEIGHT: 50 - 57%
PERCENT VOLATILE:
BY WT/ 43 - 50%
BY VOL 60 - 67% @
F: 77°F
C: 25°C
VOLATILE ORGANIC COMPOUNDS (VOC):
WITH WATER: 0.40 - .65 LBS/GAL
WITHOUT WATER: 1.0 – 1.60 LBS/GAL
MOLECULAR WEIGHT: N/A
VISCOSITY: >6,500 cps
@
F: 77°F
C: 25°C

SECTION 10: STABILITY AND REACTIVITY

STABLE UNSTABLE

STABILITY:
CONDITIONS TO AVOID (STABILITY):
INCOMPATIBILITY (MATERIAL TO AVOID):
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

Stable
None known.
Strong-oxidizing agents.
Usual products of combustion: CO₂, CO
and possibly Acrolein.
Will not occur.
None known.

HAZARDOUS POLYMERIZATION:
CONDITIONS TO AVOID (POLYMERIZATION):

Product Number: DAO1 THROUGH DAO69, DAO77 THROUGH DAO99, DA100
THROUGH DA116, DA128 THROUGH DA201, DA206 THROUGH DA243

Date of Preparation: 04/14/05

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: This product contains no materials in sufficient quantities known to be toxic or injurious to humans or to cause acute or chronic health problems.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: This product contains no materials in sufficient quantities known to be an ecological hazard.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Collect and dispose of in accordance with local, state and federal regulations.

RCRA HAZARD CLASS: This product contains no RCRA regulated materials.

SECTION 313 NOTES: This product contains no Section 313 regulated materials.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME: PAINT-NOI W/CONT O/T PLASTIC TUBES

HAZARD CLASS: NONREGULATED

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

WATER TRANSPORTATION

PROPER SHIPPING NAME: PAINT-NOI W/CONT O/T PLASTIC TUBES

HAZARD CLASS: NONREGULATED

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENTS: N/A

AIR TRANSPORTATION

PROPER SHIPPING NAME: PAINT-NOI W/CONT O/T PLASTIC TUBES

HAZARD CLASS: NONREGULATED

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENTS: N/A

OTHER AGENCIES: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): N/A

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): N/A

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): N/A

311/312 HAZARD CATEGORIES: N/A

313 REPORTABLE INGREDIENTS: N/A

STATE REGULATIONS: N/A

INTERNATIONAL REGULATIONS: N/A

SECTION 16: OTHER INFORMATION

OTHER INFORMATION: N/A

PREPARATION INFORMATION: N/A

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 58.50

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonia/Ammonium Chloride Buffer

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing mist, vapors or spray (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium hydroxide	1336-21-6	NH ₄ OH	35.05	6% or less
Ammonium chloride	12125-02-9	NH ₄ Cl	53.49	<1%
Water	7732-18-5	H ₂ O	18.00	94% or more

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store in a dedicated base cabinet. If a cabinet is not available, store in a Flinn Saf-Cube™. Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear, colorless liquid. Ammonia odor.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with acids, copper, galvanized iron, and aluminum.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, corrosive to skin, eyes, and respiratory tract, lachrymator

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 350 mg/kg as ammonia water

IHL-HUMAN TLC₀: 408 ppm as ammonia water

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #10 is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

MATERIAL SAFETY DATA SHEET

Product Name : 013 Household Ammonia

Date Issued : April 20, 2007

SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: 013 Household Ammonia
Formula : Multi-component mixture

Chemical Synonym : c013
Chemical Family: Ammonia water

Supplier : Vasco Brands 511 Budd St. Elmira, NY 14904

Emergency Telephone : (607)733-5566

SECTION 2 : COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	CAS #	% (w/w)	ACGIH TLV	
			TWA	STEL
Ammonia	7664-41-7	< 10.0	25ppm	35ppm

Unlisted components are considered non-hazardous as per 29CFR1910.1200g2C. See section 15 for specific state right-to-know information if applicable.

SECTION 3 : HAZARD IDENTIFICATION

Emergency Overview : Ammonia is very alkaline and reacts corrosively with all body tissues. Primary route (s) of entry include : inhalation, skin contact, eye contact. Read the entire MSDS for a more thorough evaluation of the hazards.

POTENTIAL HEALTH EFFECTS:

Eye Contact: Can cause permanent eye injury. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure the cornea and cause blindness. Additional symptoms of eye exposure may include : Blurred vision.

Skin Contact: Can cause severe skin irritation. Symptoms may include redness and burning of skin, and other skin damage. Additional symptoms of skin contact may include : skin blistering.

Ingestion: Swallowing this material may be harmful or fatal. Symptoms may include severe stomach and intestinal irritation (nausea, vomiting, diarrhea), abdominal pain, and vomiting of blood. Swallowing this material may cause burns and destroy tissue in the mouth, throat, and digestive tract. Low blood pressure and shock may occur as a result of severe tissue injury.

Inhalation: Breathing of vapor or mist is possible. Breathing this material may be harmful. Symptoms usually occur at air concentrations higher than the recommended exposure limits (see section 2). Signs and symptoms of exposure to this material may include irritation (nose, throat, airways), cough, shortness of breath, difficult breathing, lung edema (fluid buildup in the lung tissue).

SECTION 4 : FIRST AID MEASURES

Eye Contact: Flush with large amounts of water for at least 15 minutes. Seek medical aid.

Skin Contact: Immediately flush with large quantities of water while removing contaminated clothing.

Inhalation: Remove from exposure. If breathing has stopped or is difficult, administer artificial respiration or oxygen as needed. Seek medical aid.

Ingestion: DO NOT INDUCE VOMITING! Rinse mouth with water and give plenty of milk or water to drink. Immediately seek medical aid!

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point : None **Method Used:** N/A **Flammable Limits:** LEL = 16% UEL = 25%

Extinguishing Media: Water fog or spray for escaping ammonia gas.

Hazardous Products of Combustion : May form : ammonia, nitrogen compounds.

MATERIAL SAFETY DATA SHEET

Product Name : 013 Household Ammonia

Date Issued : April 20, 2007

Fire Fighting Procedures: The mixture will not burn, but escaping ammonia gas can burn in the range of 16 - 25% in air. Wear full protective clothing and self-contained breathing apparatus in the pressure demand mode. Use caution when fighting any fire.

Unusual Fire and Explosion Hazards: See Fire Fighting Procedures above.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled: Releases will liberate irritating vapors.

Small Spill: Spilled liquids should be contained and not washed into sewers or ground water. Prevent large quantities from contact with vegetation or waterways. Aqua ammonia is a regulated material, and reporting of any release may be required.

Large Spill: Release of 1,000 lbs. or more of aqua ammonia (NH₄OH) within 24 hours must be reported to the National Response Center at (800)424-8802, as well as appropriate local and state agencies. Immediate (within minutes) reporting is required.

Deactivating Chemicals: None listed.

SECTION 7 : HANDLING AND STORAGE

Handling: Handle with caution. Wash thoroughly after handling. For industrial use only! An eye/face and body deluge shower should be available in the immediate work area.

Storage Requirements: Store in vented containers or pressure vessels away from heat. Open containers cautiously in case of pressure build up. Zinc, copper, and copper alloys such as brass are rapidly corroded by aqua ammonia. Keep container sealed when not in use.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: Respiratory protection approved by NIOSH/MSHA for ammonia must be used when exposure limits are exceeded. Appropriate protection depends on the type and magnitude of exposure.

Ventilation / Local Exhaust : Local exhaust ventilation should be used to control release of air contaminants in the work place. General dilution ventilation may assist with the reduction of air contaminant concentrations.

Ventilation / Mechanical Recommendations: Inlet near surface.

Skin Protection: Rubber gloves and rubber or PVC/Nylon/PVC laminate protective clothing should be used to prevent contact with splashed liquid.

Eye Protection: Employees should be required to wear chemical safety goggles to prevent eye contact.

Other Protective Equipment: An eye/face and body deluge shower should be available in the immediate work area.

Exposure Guidelines: See section 2 for ACGIH recommendations for each hazardous ingredient.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance / Odor: Clear water-white liquid, ammoniacal odor.

Water Solubility: Complete

pH (1%): 13.6

Specific Gravity: 0.897

Boiling Point (°F): 80 - 85

Evaporation Rate: slower than ether

% volatile: 100

Vapor Density (air=1): 0.6

Vapor Pressure (mmHg): 755

MATERIAL SAFETY DATA SHEET

Product Name : 013 Household Ammonia

Date Issued : April 20, 2007

SECTION 10 : STABILITY AND REACTIVITY

Hazardous Decomposition Products: May form ammonia, nitrogen compounds.

Chemical Stability: Stable

Conditions to Avoid: Hydrogen gas evolves upon contact with some metals.

Incompatibility with other Substances: Avoid contact with alkali metals, brass, copper, hypochlorites, iron, metallic mercury, silver, strong acids, strong alkalis, strong mineral acids.

Hazardous Polymerization: will not occur.

SECTION 11 : TOXICOLOGICAL INFORMATION

Toxicological Data (as Ammonia) :

Acute oral : LD50(rat) = 350 mg/kg : TC Lo (human) = 43 mg/kg

Acute inhalation (LC50) : TC Lo (man) = 408ppm

Acute Dermal = no data available

significant effects = skin, eye, mucus membrane irritation.

Carcinogenicity: The ingredients of this product are not classified as carcinogenic by ACGIH, IARC, OSHA, or NTP.

SECTION 12 : ECOLOGICAL INFORMATION

Ecological Data: No data found as Ammonia.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal Method: Spent solutions cannot be sent to sewer without neutralization. If waste treatment facility is available, neutralize with diluted HCl to an acceptable pH. If not, contact a permitted waste hauler to dispose of in accordance with local, state, and federal regulations.

Is the unused product a RCRA hazardous waste (40CFR261.33) if discarded? No

If yes, the RCRA ID number is : N/A

SECTION 14 : TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Ammonia Solution (containing 10-35% ammonia)

DOT Hazard Class / Product Identification Number / Packing Group / DOT Label:

8 / UN2672 / PGIII / Corrosive

SECTION 15 : REGULATORY INFORMATION

FEDERAL REGULATIONS (USA):

TSCA (Toxic Substances Control Act) Status : TSCA (United States) The intentional ingredients of this product are listed.

CERCLA RQ - 40CFR302.4(a) Reportable Quantity (Ammonia) = 100 lbs.

MATERIAL SAFETY DATA SHEET

Product Name : 013 Household Ammonia

Date Issued : April 20, 2007

SARA 302 Components - 40 CFR 355 Appendix A

<u>Section 302 Component(s)</u>	<u>TPQ (lbs)</u>	<u>RQ (lbs)</u>
Ammonia	100	100

SARA 311/312 Classification - 40 CFR 370.2 : Immediate (as Ammonia)

SARA 313 Components - 40 CFR 372.65:

<u>Section 313 Component(s)</u>	<u>CAS #</u>	<u>%</u>
Ammonia	7664-41-7	< 10.0

OSHA Process Safety Management 29CFR 1910 :

<u>Component</u>	<u>Condition</u>	<u>TQ (lbs)</u>
Ammonia	> 44 %	15,000

EPA Accidental Release Prevention 40 CFR 68 :

<u>RMP Component (s)</u>	<u>Condition</u>	<u>TQ (lbs)</u>
Ammonia	> = 20%	20,000

INTERNATIONAL REGULATIONS:

Ammonia is listed on the following inventories : CEPA - Domestic Substances List (DSL).

STATE AND LOCAL REGULATIONS:

California Safe Drinking Water Act (Prop. 65) Listing : None listed.

New Jersey RTK Label Information :

Ammonia 7664-41-7

Pennsylvania RTK Label Information :

Ammonia 7664-41-7

SECTION 16 : OTHER INFORMATION

NFPA Rating : HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 0

NFPA hazard degree designation 704: 4 = extreme, 3 = high, 2 = moderate, 1 = slight, 0 = none.

Information and data compiled to compose this MSDS is correct to the best of our knowledge as of the printed date, and is offered solely for your consideration, investigation, and verification.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 46.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonia

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, inhalation (Category 5). May be harmful if inhaled (H333).

Hazard class: Skin corrosion or irritation (Category 3). Causes mild skin irritation (H316).

Hazard class: Serious eye damage or irritation (Category 2B). Causes eye irritation (H320).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium hydroxide	1336-21-6	NH ₄ OH	35.05	<10%
Water	7732-18-5	H ₂ O	18.00	90% or more
Synonyms: Household ammonia; Ammonia solution				

SECTION 4 — FIRST AID MEASURES

Call POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell (P304+P312). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4.

Store in a dedicated base cabinet. If a cabinet is not available, store in a Flinn Saf-Cube™.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling (P264).

Exposure guidelines: (as gas) PEL 50 ppm (OSHA) TLV 25 ppm Ceiling 35 ppm (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear, cloudy white or colored liquid. Pungent odor.

Specific gravity: 0.98-0.99

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with acids, copper, copper alloys, galvanized iron, aluminum, and chlorine containing compounds.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Skin, eye, and respiratory tract irritant, nausea, vomiting, olfactory fatigue, pulmonary edema.

Chronic effects: N.A.

Target organs: Skin, eyes, and respiratory tract.

ORL-RAT LD₅₀: 350 mg/kg as ammonium hydroxide

IHL-RAT LC₅₀: 2000 ppm/4H (as a gas)

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Acutely toxic to aquatic species.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (215-647-6). RCRA D002

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 48.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Acetate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium acetate	631-61-8	NH ₄ C ₂ H ₃ O ₂	77.08	
Synonym: Acetic acid, ammonium salt				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338).

If on skin: Wash with plenty of water. Take off contaminated clothing and wash before reuse (P362).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Deliquescent. Store in a cool, dry place within a Flinn Chem-Saf™ bag. Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Deliquescent crystal. Weak ammonia odor.
Soluble: Water (148 g/100 mL) and alcohol

Melting point: 110-112 °C (decomposes)
Specific gravity: 1.17

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers and acids.
Shelf life: Poor, deliquescent. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD₅₀: N.A.
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (211-162-9).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 50.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Bromide

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2B). Causes skin and eye irritation (H315+H320).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium bromide	12124-97-9	NH ₄ Br	97.94	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338).

If on skin: Wash with plenty of water (P302+P351). Take off contaminated clothing and wash before reuse (P362).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Slightly hygroscopic. Store in a cool, dry place within a Flinn Chem-Saf™ bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Faint ammonia odor.

Specific gravity: 2.4

Soluble: Water and alcohol

Sublimes at 452 °C

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, acids, and bases.

When heated to decomposition, emits toxic fumes of NO_x and NH₃.

Shelf life: Fair to poor, slightly hygroscopic. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.

ORL-RAT LD₅₀: 2700 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (235-183-8).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 51.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Carbonate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2B). Causes skin and eye irritation (H315+H320).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium carbonate	506-87-6	(NH ₄) ₂ CO ₃	96.09	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313). **If on skin:** Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313). **If swallowed:** Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

Decomposes to NH₃ and CO₂ at temperatures above 58 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates. Store in a cool, dry place. Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White, crystalline plates or lump. Strong ammonia odor.
Soluble: Water. Decomposes in hot water.

Melting point: 58 °C (decomposes)
Specific gravity: 1.5

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong acids. Decomposes in hot water.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD₅₀: 2150 mg/kg
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (208-058-0).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

Section 1 — Chemical Product and Company Identification

Ammonium Chloride Solution

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Ammonium Chloride (12125-02-9) 5% - 10%, Water (7732-18-5) 90% - 95%

Synonym: Ammonium Muriate

CAS#: None Established

Section 3 — Hazards Identification

Clear, colorless, odorless liquid.

Irritating to body tissues. Avoid all body tissue contact.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-0

Exposure-1

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non-flammable, non-combustible liquid.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area and ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

Ammonium Chloride Solution

MSDS #: 53.10

Revision Date: August 22, 2003

Section 9 — Physical and Chemical Properties

Clear, colorless, odorless liquid.
Concentrations: 2 Molar or less

Section 10 — Stability and Reactivity

Avoid heat, decomposes when heated.
Shelf life: Indefinite.

Section 11 — Toxicological Information

Acute effects: Irritant	ORL-RAT LD50: 1650 mg/kg as Ammonium Chloride
Chronic effects: N.A.	IHL-RAT LC50: N.A.
Target organs: N.A.	SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26b is one option.

Section 14 — Transport Information

Shipping Name: Not regulated.
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 53.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Chloride

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat or drink when using this product (P270).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium chloride	12125-02-9	NH ₄ Cl	53.49	
Synonym: Ammonium muriate				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P301+P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. (P305+P351+P338).

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Somewhat hygroscopic. Store in a cool, dry place within a Flinn Chem-Saf™ bag. Use a fume hood when heating.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.
Exposure guidelines: (as fume) TLV 10 mg/m³, STEL 20 mg/m³ (ACGIH).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White, hygroscopic crystal. Odorless.
Soluble: Water and glycerin. Slightly in alcohol.

Boiling point: 520 °C
Melting point: 337.8 °C
Specific gravity: 1.53

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong acids and bases.
Shelf life: Fair to poor, somewhat hygroscopic. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD₅₀: 1650 mg/kg
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (235-186-4).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 58.05

Revision Date: December 13, 2013

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Hydroxide Solution, 1M or Less

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin corrosion or irritation (Category 2). Causes skin irritation (H315).

Hazard class: Serious eye damage or irritation (Category 1). Causes serious eye damage (H318).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium hydroxide	1336-21-6	NH ₄ OH	35.05	4% or less
Water	7732-18-5	H ₂ O	18.00	96% or more

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician (P305+P351+P338+P310).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Do NOT induce vomiting.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store in a dedicated base cabinet. If a cabinet is not available, store in a Flinn Saf-Cube™. Keep container tightly closed (P233).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear, colorless liquid. Strong ammonia odor.

Odor threshold: 5-50 ppm as ammonia

pH: basic

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with acids, copper, galvanized iron, and aluminum.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, corrosive to skin, eyes, and respiratory tract, lachrymator

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 350 mg/kg as ammonia water

IHL-HUMAN TLC₀: 408 ppm as ammonia water

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #10 is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (215-647-6), RCRA code D002.

SECTION 16 — OTHER INFORMATION

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FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 58.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Hydroxide, 1.1 M - 14.8 M

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314). Do not breathe mist, vapors or spray (P260).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing mist, vapors or spray (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium hydroxide	1336-21-6	NH ₄ OH	35.05	5 - 70%
Synonyms: Aqua ammonium; Ammonia solution				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. Immediately call a POISON CENTER or physician (P305+P351+P338+P310).

If on skin (or hair): Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353).

If swallowed: Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store in a dedicated base cabinet. If a cabinet is not available, store in a Flinn Saf-Cube™. Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Solution of ammonia in water. Strong ammonia odor.

Boiling point: 25 °C

Melting point: -91.5 °C

Odor threshold: 5-50 ppm as ammonia

pH: basic

Specific gravity: 0.897

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with acids, copper, galvanized iron, and aluminum.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, corrosive to skin, eyes, and respiratory tract, lachrymator

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 350 mg/kg as ammonia water

IHL-HUMAN TLC₀: 408 ppm as ammonia water

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #10 is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Ammonia Solutions. Hazard class: 8, Corrosive. UN number: UN2672

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (215-647-6), RCRA code D002.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 58.10

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Iodide

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium iodide	12027-06-4	NH ₄ I	144.94	

SECTION 4 — FIRST AID MEASURES

Get medical advice or attention (P313). **If inhaled:** Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of soap and water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313). Take off contaminated clothing and wash before reuse (P362).

If swallowed: Rinse mouth. Give large quantities of water for dilution.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Very hygroscopic and light sensitive. Store in a cool, dry place within a Flinn Chem-Saf™ bag. Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White to off-white crystalline powder. Odorless.
Soluble: Water and glycerol. Slightly in alcohol.

Melting point: 551 °C (sublimes)
Specific gravity: 2.5

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong acids and bases.

Shelf life: Fair to poor, very hygroscopic and light sensitive. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.

ORL-RAT LD₅₀: N.A.

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: Mucous membranes, eyes.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (234-717-7).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

MSDS #: 59.00

Revision Date: March 14, 2001

Section 1 — Chemical Product and Company Identification

Ammonium Metavanadate

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Ammonium Metavanadate

Synonym: Ammonium Vanadate

CAS#: 7803-55-6

Section 3 — Hazards Identification

Pale-yellow crystalline powder.

Highly toxic by ingestion, severe irritant to eyes and skin. Avoid all body tissue contact.

FLINN AT-A-GLANCE

Health-3

Flammability-0

Reactivity-0

Exposure-1

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non-flammable solid.

When heated to decomposition, emits toxic fumes of NH₃ and NO_x.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Remove all ignition sources and water. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates.

Deliquescent, store in Flinn Chem-Saf bag. Use and dispense in a hood.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Use exhaust ventilation to keep airborne concentrations low.

Material Safety Data Sheet (MSDS)

Section 9 — Physical and Chemical Properties

Pale-yellow crystalline powder.

Solubility: Less than 1% (0.7) water soluble.

Formula: NH_4VO_3

Formula Weight: 116.99

Specific Gravity: 2.3

Melting Point: 200 C (dec.)

Section 10 — Stability and Reactivity

Avoid contact with strong oxidizers and acids.

When heated to decomposition, emits toxic fumes of NH_3 and NO_x .

Shelf life: Indefinite

Section 11 — Toxicological Information

Acute effects: Toxic, severe eye irritant; severe overexposure may result in greenish-black tongue discoloration.

Chronic effects: Possible mutagen

Target organs: N.A.

ORL-RAT LD50: 160 mg/kg

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #27d is one option.

Section 14 — Transport Information

Shipping Name: Ammonium Metavanadate

Hazard Class: 6.1, Poison

UN Number: UN2859

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (232-261-3), RCRA code P119.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 60.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Molybdate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium molybdate tetrahydrate	12054-85-2	$(\text{NH}_4)_6\text{Mo}_7\text{O}_{24} \cdot 4\text{H}_2\text{O}$	1235.86	
Synonyms: Ammonium molybdate(VI) tetrahydrate; Ammonium molybdate				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and water. Ventilate area. Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #8. Store with borates, chromates, manganates, and permanganates.

Store at room temperature.

Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: PEL, TLV: 0.5 mg/m³ (as Mo) (ACGIH, OSHA).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Odorless.

Soluble: Water

Melting point: 190 °C (decomposes)

Specific gravity: 2.27

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers and bases.

When heated to decomposition, emits toxic fumes of NO_x and NH₃.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Highly toxic. Irritant.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 333 mg/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #6 is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed; EINECS-listed (234-722-4).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 61.00

Revision Date: July 6, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Nitrate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Oxidizing solids (Category 3). May intensify fire; oxidizer (H272). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Hazard class: Skin corrosion or irritation (Category 2). Causes skin irritation (H315).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium nitrate	6484-52-2	NH ₄ NO ₃	80.04	
Synonym: Nitric acid, ammonium salt				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

May explode under confinement and high temperatures or if exposed to reducing agents.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher. Take any precautions to avoid mixing with combustibles (P221+P370+P378).

NFPA CODE

H-0

F-0

R-3

OX

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and water. Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #8. Store with borates, chromates, manganates, and permanganates. Store away from all combustibles. Keep and store away from clothing and combustible materials (P220). Take any precautions to avoid mixing with combustibles (P221). Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White crystals. Odorless.

Soluble: Water, alcohol, and alkalis.

Boiling point: 210 °C (decomposes)

Melting point: 170 °C

Specific gravity: 1.725

SECTION 10 — STABILITY AND REACTIVITY

Store away from any source of combustion or ignition. Avoid contact with reducing agents, strong acids, finely powdered metals, and organic materials. Do not grind in a mortar and pestle - potentially shock sensitive.

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant, gastrointestinal disturbances.

Chronic effects: N.A.

Target organs: Blood, central nervous system.

ORL-RAT LD₅₀: 2217 mg/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Ammonium Nitrate. Hazard class: 5.1, Oxidizer. UN number: UN1942.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (229-347-8), RCRA code D001, D003.

SECTION 16 — OTHER INFORMATION

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Revision Date: July 6, 2015

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 62.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Oxalate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral and dermal (Category 4). Harmful if swallowed or in contact with skin (H302 +H312). Do not eat, drink, or smoke when using this product (P270).

Hazard class: Skin corrosion/irritation (Category 1). Causes severe skin burns and eye damage (H314).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium oxalate	6009-70-7	$(\text{NH}_4)_2\text{C}_2\text{O}_4 \cdot \text{H}_2\text{O}$	142.11	
Synonym: Ethanedioic acid, diammonium salt				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Odorless.
Soluble: Water (2.54 g/100 mL)

Melting point: 133 °C (decomposes)
Specific gravity: 1.5

SECTION 10 — STABILITY AND REACTIVITY

May react violently with NaOCl and ammonium acetate.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Corrosive, toxic, irritant.
Chronic effects: N.A.
Target organs: Kidneys, nerves.

ORL-RAT LD₅₀: N.A.
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 67.00

Revision Date: December 13, 2013

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Sulfate

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium sulfate	7783-20-2	(NH ₄) ₂ SO ₄	132.15	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing (P305+P351+P338).

If on skin: Rinse cautiously with water for several minutes (P351).

If swallowed: Rinse mouth. Give large quantities of water for dilution.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates, and phosphates.

Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White crystals. Odorless.

Melting point: 280 °C (decomposes)

Soluble: Water (44 %). Insoluble in alcohol or acetone.

Specific gravity: 1.77

SECTION 10 — STABILITY AND REACTIVITY

May explode if mixed with oxidizers. Contact with caustic liberates ammonia.

Avoid contact with strong oxidizers and bases. Incompatible with (K+NH₄NO₃), KNO₂, and (NaK+NH₄NO₃).

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.

ORL-RAT LD₅₀: 2840 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-984-1).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 70.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Thiocyanate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral, dermal, and inhalation (Category 4). Harmful if swallowed, inhaled or in contact with skin (H302+H312+H332). Do not eat, drink or smoke when using this product (P270). Avoid breathing dust or fumes (P261)

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Ammonium thiocyanate	1762-95-4	NH ₄ SCN	76.13	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water (P302+P352).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P302+P301+P312).

Wash contaminated clothing before reuse (P363).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #7. Store with arsenates, cyanides and cyanates.

Deliquescent. Store in a cool, dry place within a Flinn Chem-Saf™ bag.

Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White or light pink crystals. Odorless.

Soluble: Water soluble, alcohol, acetone, and ammonia

Boiling point: 170 °C (decomposes)

Melting point: 149 °C

Specific gravity: 1.3

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers and acids.

When heated to decomposition, or on contact with acid or acid fumes, emits highly toxic fumes of cyanide (CN).

Shelf life: Poor, deliquescent. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, irritant.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 750 mg/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (217-175-6).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 72.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

n-Amyl Alcohol

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 3). Flammable liquid and vapor (H226). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral and dermal (Category 5). May be harmful if swallowed or in contact with skin (H303+ H313).

Hazard class: Skin corrosion or irritation (Category 2). Causes skin irritation (H315).

Hazard class: Acute toxicity, inhalation (Category 4). Harmful if inhaled (H332).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing mist, vapors or spray (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
n-Amyl alcohol	71-41-0	CH ₃ (CH ₂) ₄ OH	88.15	
Synonyms: Pentyl alcohol; 1-Pentanol				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin (or hair): Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Class II combustible liquid.

Flash point: 49 °C Flammable limits: Lower: 1.2% Upper: 10% Autoignition Temperature: 300 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA Code

H-1

F-3

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain the spill with sand or other inert absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #2. Store with alcohols, glycols, amines and amides. Store in a dedicated flammables cabinet. If a flammables cabinet is not available, store in Flinn Saf-Stor™ can. Keep container tightly closed (P233). Keep cool (P235). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless liquid. Banana-like odor.

Soluble: Alcohol

Soluble in water: 2.7 g/100 mL

Boiling point: 137.5 °C

Melting point: -79 °C

Specific gravity: 0.814

SECTION 10 — STABILITY AND REACTIVITY

Avoid heat, sparks, and oxidizing agents.

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Absorbed through skin and respiratory tract. Skin, eye, and respiratory tract irritation. Dizziness. Headache. Nausea

Chronic effects: N.A.

Target organs: Nervous system, lungs, kidneys.

ORL-MUS LD₅₀: 200 mg/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: 2306 mg/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #18b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Amyl alcohols. Hazard class: 3, Flammable liquid. UN number: UN1105.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-752-1), RCRA code D001.

SECTION 16 — OTHER INFORMATION

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Revision Date: March 21, 2014



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MATERIAL SAFETY DATA SHEET

Issue Date: 10/01/04

SECTION I - PRODUCT IDENTIFICATION

Product Name: Anita's Acrylic Craft Paint
Product Sizes: 2 fl. oz, 8 fl. oz.

Product Nos: 11001-11183, 11301-11440
Product Class: Water Based Paint

SECTION II - HAZARDOUS INGREDIENTS

None

SECTION III - PHYSICAL & CHEMICAL DATA

Boiling Point: N/A
Vapor Pressure: N/A
Specific Gravity: N/A
Reactivity in Water: Non-reactive

Melting Point: N/A
Specific Vapor Density (Air=1): N/A
Solubility in Water: N/A
Appearance: Colored liquid

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A
Explosion Limits in Air: Not explosive
Fire Fighting Procedures: No special fire fighting procedures required
Unusual Fire and Explosion hazards: Not combustible

Auto ignition Temperature: N/A
Extinguishing Media: No special media required

SECTION V - PHYSICAL HAZARDS/REACTIVITY

Hazardous Polymerization Products: None
Incompatibility (Materials to Avoid): None

Stability: Conditions to avoid: None
Hazardous Decomposition Products: None

SECTION VI - FIRE AND EXPLOSION HAZARD

Permissible Exposure Level: See Section II for component PEL/TLV
Primary routes of entry: Inhalation, ingestion, eye, skin
Effects and symptoms of acute exposure: None expected
Effects and symptoms of chronic exposure: None expected
Carcinogen Listing: NTP: No IARC: No OSHA: No
Medical Conditions Usually Aggravated by Overexposure to this Product: None
First Aid Measures: None required. No acute health effects expected.

SECTION VII - SPILL OR LEAK PROCEDURES

Precautions to be Taken During Storage and Handling: No special precautions required.
Steps to be Taken in Case a Material is Spilled: No special spill procedures required
Waste Disposal Methods: Dispose in accordance with federal, state, and local regulations

SECTION VIII - PROTECTIVE EQUIPMENT/CONTROL MEASURES

Respiratory Protection and Special Ventilation Requirements: None required
Other Protective Equipment: None required
Work/Hygiene Practices: None required

This information sheet is for the consumer use of this product only.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : RADNOR® ANTI-SPATTER PREMIUM WATER BASE - BULK
 PRODUCT USE : PREVENTS SPATTER BUILD UP
 PART NUMBER(S) : 64000113, 64000115, 64000117
 ADDRESS : RADNOR WELDING PRODUCTS
 259 N. RADNOR-CHESTER ROAD SUITE 100
 RADNOR, PA 19087-5283
 EMERGENCY TELEPHONE : 866-734-3438
 PREPARATION DATE : SEPTEMBER 01, 2012
 OSHA REGULATORY STATUS : NOT REGULATED
 WHMIS CLASSIFICATION : NOT REGULATED

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS	OSHA PEL	ACGIH TLV	LD50 SPECIES/ROUTE	LC50 SPECIES/ROUTE	%WT
NONE						

SECTION 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

EYE: May cause redness, burning, tearing, swelling and/or pain.
 SKIN: Frequent or prolonged contact can result in drying of the skin which may result in skin irritation and/or rash.
 INGESTION: May cause irritation to the mouth, throat and gastrointestinal tract, resulting in vomiting and/or cramps.
 INHALATION: No health effects anticipated from vapour.
 EFFECTS OF ACUTE EXPOSURE: N/A
 EFFECTS OF CHRONIC EXPOSURE: No serious long-term health effects are anticipated.
 OTHER IMPORTANT HAZARDS: None
 SUGGESTED HMIS RATING: HEALTH | 1 | FLAMMABILITY | 0 | REACTIVITY | 0 | PERSONAL PROTECTION | B I

SECTION 4. FIRST AID MEASURES

INHALATION: If someone has difficulty breathing after exposure to product, remove him or her to fresh air immediately. If breathing difficulty persists, contact a doctor.
 INGESTION: If swallowed, do not induce vomiting. Get medical attention right away.
 EYE CONTACT: For eye contact, flush with water for at least 15 minutes.
 SKIN CONTACT: For skin contact, wash with soap and water.

SECTION 5. FIRE FIGHTING MEASURES

CONDITIONS OF FLAMMABILITY: Not flammable under normal conditions. Product is water based.
 MEANS OF EXTINCTION: N/A
 SPECIAL FIRE FIGHTING PROCEDURES: None
 UNUSUAL FIRE AND EXPLOSION HAZARDS: N/A
 FLASH POINT / DETERMINATION: None
 UPPER FLAMMABLE LIMIT: None
 LOWER FLAMMABLE LIMIT: None
 AUTO-IGNITION TEMPERATURE: Not known.
 HAZARDOUS COMBUSTION PRODUCTS: Oxides of carbon.
 EXPLOSION DATA - SENSITIVITY TO MECHANICAL IMPACT: Not sensitive.
 EXPLOSION DATA - SENSITIVITY TO STATIC DISCHARGE: Will not be ignited by exposure to static.

SECTION 6. ACCIDENTAL RELEASE MEASURES

LEAK / SPILL RESPONSE: Ensure that all spilled material is promptly cleaned up. Absorb with inert material such as vermiculite or paper towels, place in a chemical waste container for eventual disposal. Seal and label the container as waste. Dispose of in accordance with all federal, state, provincial and local regulations.

SPECIAL INSTRUCTIONS: Avoid contact with eyes, or prolonged contact with skin. Wash thoroughly after handling. Keep away from food, and out of reach of small children.

SECTION 7. HANDLING AND STORAGE

HANDLING PROCEDURES / EQUIPMENT: Keep containers closed when not in use.

STORAGE REQUIREMENTS: Store in a cool, dry area away from water-reactive chemicals such as sodium and potassium.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EYE PROTECTION: Safety glasses with side shields, or chemical splash goggles, are recommended when handling this product.

SKIN PROTECTION: Protective gloves not normally required. People with sensitive skin may prefer to wear water-proof gloves, such as rubber or neoprene, to avoid skin contact.

ENGINEERING CONTROLS: No special ventilation requirements. Special respiratory protection is not required for normal conditions of use of this product.

EXPOSURE GUIDELINE LEVELS: N/Ap.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	:	Liquid
ODOR AND APPEARANCE	:	Mild odor, light tan liquid
ODOR THRESHOLD	:	N/Ap
SPECIFIC GRAVITY (H ₂ O=1)	:	~1.0
VAPOUR PRESSURE (mm HG)	:	Approximately that of water (24 mm Hg)
VAPOUR DENSITY (AIR=1)	:	0.610
EVAPORATION RATE (BA=1)	:	1.0
BOILING POINT (°F)	:	Approximately 212°F (100°C)
FREEZING POINT (°F)	:	Approximately 32°F (0°C)
pH	:	7.0
COEFFICIENT OF WATER/OIL DISTRIBUTION	:	N/Ap
DENSITY	:	1.000
SOLUBILITY IN WATER	:	Soluble
% VOLATILE BY VOLUME	:	N/Av
VOC'S	:	Less than 1

SECTION 10. STABILITY AND REACTIVITY

STABILITY: Normally stable.
CONDITIONS TO AVOID: Excessive heating.
MATERIALS TO AVOID (INCOMPATIBILITIES): Strong oxidizing materials.
CONDITIONS OF REACTIVITY: N/Av
HAZARDOUS DECOMPOSITION BYPRODUCTS: Oxides of carbon.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11.TOXICOLOGICAL INFORMATION

LD50: N/Av
LC50: N/Av
ROUTES OF ENTRY: INHALATION[N] EYE CONTACT[Y] SKIN CONTACT[N] SKIN ABSORPTION[N] INGESTION[N]
EXPOSURE LIMITS: N/Av
IRRITANCY OF PRODUCT: Not known to be irritating.
SENSITIZATION TO PRODUCT / MEDICAL CONDITIONS AGGRAVATED: Not known to cause allergies.
CARCINOGENICITY: No ingredients known to be carcinogens,
TERATOGENICITY / MUTAGENICITY / REPRODUCTIVE TOXICITY: No effects determined.

SECTION 12. ECOLOGICAL INFORMATION

ENVIRONMENTAL EFFECTS: Not known. Not expected to have serious environmental effects in small quantities.
IMPORTANT ENVIRONMENTAL CHARACTERISTICS: None know. Product is water-based.
AQUATIC TOXICITY: Not known. Expected to have minimal toxicity.

SECTION 13. DISPOSAL CONSIDERATIONS

Place in a sealed container and label as waste. Place in a safe area, and comply with all federal, state, provincial and local regulations for disposal.

SECTION 14. TRANSPORTATION INFORMATION

SPECIAL SHIPPING INFORMATION	: None
DOT HM-181 SHIPPING INFORMATION	
PROPER SHIPPING NAME	: Not regulated
HAZARD CLASS OR DIVISION	: none
UN NUMBER	: none
PACKAGING GROUP	: none
LABEL(S) REQUIRED	: none
TDG SHIPPING INFORMATION	
TDG SHIPPING NAME	: Not regulated
TDG CLASSIFICATION	: none
UN NUMBER	: none
PACKING GROUP	: none
LABEL(S) REQUIRED	: none
NAERG	: none
EMERGENCY TELEPHONE NUMBER	: (613) 996-6666
INTERNATIONAL TRANSPORT INFORMATION	
PROPER SHIPPING NAME	: Not regulated
CLASS OR DIVISION	: none
SUBSIDIARY RISK	: none
HAZARDOUS LABEL(S)	: none
PACKAGING GROUP	: none
UN OR ID NUMBER	: none

SECTION 15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA): The product on this MSDS, or all of its components, is listed under TSCA.

SARA TITLE III, SECTION 313: The following ingredients are subject to the reporting requirements of section 313 of Title III of the Superfund and Reauthorization Act of 1986 and 40 CFR Part 372: None

CLEAN AIR ACT (CAA): The following ingredients appear on the List of Hazardous Air Pollutants (HAP – 42 USC 7412, Title I, Part A, p112): None

CLEAN WATER ACT (CWA):The following ingredients appear on the CWA List of Hazardous Substances (40 CFR 116.4): None

CALIFORNIA PROPOSITION 65: The following ingredients appear on the Proposition 65 list(s): None

CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS): This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

DOMESTIC SUBSTANCES LIST (DSL): The product on this MSDS, or all of its components, is included in the DSL.

NEW JERSEY RIGHT TO KNOW (TITLE 34:5A-1): Water (CAS 7732-18-5), Lard Oil (CAS 8016-28-2), Sorbitan Monooleate (CAS 9005-65-6).

SECTION 16. OTHER INFORMATION

N/E	Not Established
N/Av	Not Available
N/Ap	Not Applicable
IARC	International Agency for Research on Cancer
ACGIH	American Conference of Governmental Industrial Hygienists
NIOSH	National Institute for Occupational Health and Safety
TLV-TWA	Threshold Limit Values, Time Weighted Average
NAERG	North American Emergency Response Guidebook
WHMIS	Workplace Hazardous Materials Information System

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SAFETY DATA SHEET

APEX POWER

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : APEX POWER

Other means of identification : Not applicable

Recommended use : Machine Warewashing Detergent

Restrictions on use : Reserved for industrial and professional use.

Product dilution information : 0.13 % - 0.26 %

Company : Ecolab Inc.
370 N. Wabasha Street
St. Paul, Minnesota USA 55102
1-800-352-5326

Emergency telephone : 1-800-328-0026 (US/Canada), 1-651-222-5352 (outside US)

Issuing date : 09/04/2014

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Product AS SOLD

Eye irritation : Category 2B

Product AT USE DILUTION

Not a hazardous substance or mixture.

GHS Label element

Product AS SOLD

Signal Word : Warning

Hazard Statements : Causes eye irritation.

Precautionary Statements : **Prevention:**
Wash skin thoroughly after handling. Mixing this product with acid or ammonia releases chlorine gas.
Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Product AT USE DILUTION

Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Get medical advice/ attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Other hazards : None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

SAFETY DATA SHEET

APEX POWER

Product AS SOLD

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration (%)
Sodium Carbonate	497-19-8	60 - 100
sodium metasilicate	6834-92-0	1 - 5
Alcohol ethoxylate	68439-51-0	1 - 5
Sodium dichloro-s-triazinetriene dihydrate	51580-86-0	1 - 5
Phosphonates	67953-76-8	1 - 5
oxirane, methyl-, polymer with oxirane	9003-11-6	0.1 - 1

Product AT USE DILUTION

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

Product AS SOLD

In case of eye contact : Rinse with plenty of water.

In case of skin contact : Rinse with plenty of water.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : Get medical attention if symptoms occur.

Protection of first-aiders : No special precautions are necessary for first aid responders.

Notes to physician : Treat symptomatically.

Product AT USE DILUTION

In case of eye contact : Rinse with plenty of water.

In case of skin contact : Rinse with plenty of water.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : Get medical attention if symptoms occur.

See toxicological information (Section 11)

SECTION 5. FIRE-FIGHTING MEASURES

Product AS SOLD

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during fire fighting : Not flammable or combustible.

Hazardous combustion products : Decomposition products may include the following materials:
Carbon oxides
Nitrogen oxides (NOx)
Sulfur oxides
Oxides of phosphorus

SAFETY DATA SHEET

APEX POWER

Special protective equipment for fire-fighters : Use personal protective equipment.

Specific extinguishing methods : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Product AS SOLD

Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Do not allow contact with soil, surface or ground water.

Methods and materials for containment and cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Product AT USE DILUTION

Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.

Environmental precautions : No special environmental precautions required.

Methods and materials for containment and cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

SECTION 7. HANDLING AND STORAGE

Product AS SOLD

Advice on safe handling : Wash hands thoroughly after handling. Mixing this product with acid or ammonia releases chlorine gas.

Conditions for safe storage : Keep out of reach of children. Store in suitable labeled containers.

Storage temperature : 0 °C to 50 °C

Product AT USE DILUTION

Advice on safe handling : Wash hands after handling. For personal protection see section 8.

Conditions for safe storage : Keep out of reach of children. Store in suitable labeled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Product AS SOLD

Ingredients with workplace control parameters

SAFETY DATA SHEET

APEX POWER

Ingredients	CAS-No.	Form of exposure	Permissible concentration	Basis
chlorine	7782-50-5	TWA	0.5 ppm	ACGIH
		STEL	1 ppm	ACGIH
		Ceiling	0.5 ppm 1.45 mg/m ³	NIOSH REL
		C	1 ppm 3 mg/m ³	OSHA Z1

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection : No special protective equipment required.

Skin protection : No special protective equipment required.

Respiratory protection : No personal respiratory protective equipment normally required.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

Product AT USE DILUTION

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection : No special protective equipment required.

Skin protection : No special protective equipment required.

Respiratory protection : No personal respiratory protective equipment normally required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

	Product AS SOLD	Product AT USE DILUTION
Appearance	: solid	liquid
Color	: opaque, white	colorless
Odor	: Chlorine	odorless
pH	: 11.1 - 11.8, 1 %	10.79 - 10.91
Flash point	: Not applicable	
Odor Threshold	: No data available	
Melting point/freezing point	: No data available	
Initial boiling point and boiling range	: No data available	
Evaporation rate	: No data available	

SAFETY DATA SHEET

APEX POWER

Flammability (solid, gas)	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Water solubility	: soluble
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: No data available
Thermal decomposition	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Molecular weight	: No data available
VOC	: No data available

SECTION 10. STABILITY AND REACTIVITY

Product AS SOLD

Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Mixing this product with acid or ammonia releases chlorine gas.
Conditions to avoid	: None known.
Incompatible materials	: Acids Bases
Hazardous decomposition products	: Decomposition products may include the following materials: Carbon oxides Nitrogen oxides (NOx) Sulfur oxides Oxides of phosphorus

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Eye contact

Potential Health Effects

Product AS SOLD

Eyes	: Causes eye irritation.
Skin	: Health injuries are not known or expected under normal use.
Ingestion	: Health injuries are not known or expected under normal use.

SAFETY DATA SHEET

APEX POWER

Inhalation : Health injuries are not known or expected under normal use.

Chronic Exposure : Health injuries are not known or expected under normal use.

Product AT USE DILUTION

Eyes : Health injuries are not known or expected under normal use.

Skin : Health injuries are not known or expected under normal use.

Ingestion : Health injuries are not known or expected under normal use.

Inhalation : Health injuries are not known or expected under normal use.

Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

Product AS SOLD

Eye contact : Redness, Irritation

Skin contact : No symptoms known or expected.

Ingestion : No symptoms known or expected.

Inhalation : No symptoms known or expected.

No symptoms known or expected.

Product AT USE DILUTION

Eye contact : No symptoms known or expected.

Skin contact : No symptoms known or expected.

Ingestion : No symptoms known or expected.

Inhalation : No symptoms known or expected.

Toxicity

Product AS SOLD

Acute oral toxicity : Acute toxicity estimate : 2,956 mg/kg

Acute inhalation toxicity : No data available

Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg

Skin corrosion/irritation : No skin irritation

Serious eye damage/eye irritation : Mild eye irritation

Respiratory or skin sensitization : No data available

Carcinogenicity : No data available

Reproductive effects : No data available

Germ cell mutagenicity : No data available

Teratogenicity : No data available

STOT-single exposure : No data available

STOT-repeated exposure : No data available

SAFETY DATA SHEET

APEX POWER

Aspiration toxicity : No data available

Ingredients

Acute inhalation toxicity : oxirane, methyl-, polymer with oxirane
4 h LC50 Rat: 0.147 mg/l

SECTION 12. ECOLOGICAL INFORMATION

Product AS SOLD

Ecotoxicity

Environmental Effects : Harmful to aquatic life.

Product

Toxicity to fish : No data available

Toxicity to daphnia and other aquatic invertebrates : No data available

Toxicity to algae : No data available

Ingredients

Toxicity to fish : sodium metasilicate
96 h LC50 Fish: 210 mg/l

Alcohol ethoxylate
96 h LC50: > 1 mg/l

oxirane, methyl-, polymer with oxirane
96 h LC50 Fish: > 100 mg/l

Ingredients

Toxicity to daphnia and other aquatic invertebrates : Sodium Carbonate
48 h EC50 Daphnia : 200 mg/l

Sodium dichloro-s-triazinetriene dihydrate
48 h EC50 Daphnia : 0.196 mg/l

Phosphonates
48 h EC50: 167 mg/l

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Product AS SOLD

SAFETY DATA SHEET

APEX POWER

- Disposal methods : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
- Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Product AT USE DILUTION

- Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
- Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

Product AS SOLD

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Not dangerous goods

Sea transport (IMDG/IMO)

Not dangerous goods

Product AT USE DILUTION

Not intended for transport.

SECTION 15. REGULATORY INFORMATION

Product AS SOLD

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65

SAFETY DATA SHEET

APEX POWER

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

Switzerland. New notified substances and declared preparations :
not determined

United States TSCA Inventory :
On TSCA Inventory

Canadian Domestic Substances List (DSL) :
All components of this product are on the Canadian DSL.

Australia Inventory of Chemical Substances (AICS) :
not determined

New Zealand. Inventory of Chemical Substances :
On the inventory, or in compliance with the inventory

Japan. ENCS - Existing and New Chemical Substances Inventory :
not determined

Japan. ISHL - Inventory of Chemical Substances (METI) :
not determined

Korea. Korean Existing Chemicals Inventory (KECI) :
not determined

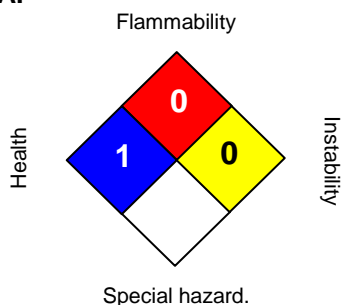
Philippines Inventory of Chemicals and Chemical Substances (PICCS) :
not determined

China. Inventory of Existing Chemical Substances in China (IECSC) :
not determined

SECTION 16. OTHER INFORMATION

Product AS SOLD

NFPA:



HMIS III:

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0

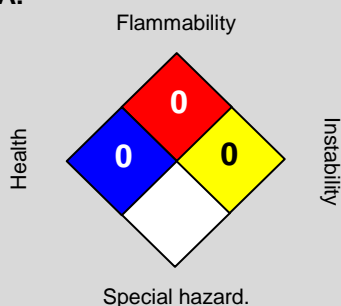
0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Product AT USE DILUTION

SAFETY DATA SHEET

APEX POWER

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Issuing date : 09/04/2014
Version : 1.0
Prepared by : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



SAFETY DATA SHEET

APEX POWER PLUS

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : APEX POWER PLUS

Other means of identification : Not applicable

Recommended use : Machine Warewashing Detergent

Restrictions on use : Reserved for industrial and professional use.

Product dilution information : 0.12 % - 0.26 %

Company : Ecolab Inc.
370 N. Wabasha Street
St. Paul, Minnesota USA 55102
1-800-352-5326

Emergency telephone : 1-800-328-0026 (US/Canada), 1-651-222-5352 (outside US)

Issuing date : 11/19/2014

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Product AS SOLD

Eye irritation : Category 2B

Product AT USE DILUTION

Not a hazardous substance or mixture.

GHS Label element

Product AS SOLD

Signal Word : Warning

Hazard Statements : Causes eye irritation.

Precautionary Statements : **Prevention:**
Wash skin thoroughly after handling. Mixing this product with acid or ammonia releases chlorine gas.
Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Product AT USE DILUTION

Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Get medical advice/ attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Other hazards : None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

SAFETY DATA SHEET

APEX POWER PLUS

Product AS SOLD

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration (%)
Sodium Carbonate(soda)	497-19-8	60 - 100
sodium metasilicate	6834-92-0	1 - 5
Alcohol ethoxylate	68439-51-0	1 - 5
Sodium Dichloro s Triazinetrione Dihydrate	51580-86-0	1 - 5
Phosphonates	67953-76-8	1 - 5
oxirane, methyl-, polymer with oxirane	9003-11-6	0.1 - 1

Product AT USE DILUTION

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

Product AS SOLD

In case of eye contact : Rinse with plenty of water.

In case of skin contact : Rinse with plenty of water.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : Get medical attention if symptoms occur.

Protection of first-aiders : No special precautions are necessary for first aid responders.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Product AT USE DILUTION

In case of eye contact : Rinse with plenty of water.

In case of skin contact : Rinse with plenty of water.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : Get medical attention if symptoms occur.

SECTION 5. FIRE-FIGHTING MEASURES

Product AS SOLD

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during fire fighting : Not flammable or combustible.

Hazardous combustion products : Decomposition products may include the following materials:
Carbon oxides
Nitrogen oxides (NOx)

SAFETY DATA SHEET

APEX POWER PLUS

Sulfur oxides
Oxides of phosphorus

Special protective equipment for fire-fighters : Use personal protective equipment.

Specific extinguishing methods : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Product AS SOLD

Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Do not allow contact with soil, surface or ground water.

Methods and materials for containment and cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Product AT USE DILUTION

Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.

Environmental precautions : No special environmental precautions required.

Methods and materials for containment and cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

SECTION 7. HANDLING AND STORAGE

Product AS SOLD

Advice on safe handling : Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Mixing this product with acid or ammonia releases chlorine gas.

Wash hands thoroughly after handling.

Conditions for safe storage : Keep out of reach of children. Store in suitable labeled containers.

Storage temperature : 0 °C to 50 °C

Product AT USE DILUTION

Advice on safe handling : Wash hands after handling. For personal protection see section 8.

Conditions for safe storage : Keep out of reach of children. Store in suitable labeled containers.

SAFETY DATA SHEET

APEX POWER PLUS

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Product AS SOLD

Ingredients with workplace control parameters

Ingredients	CAS-No.	Form of exposure	Permissible concentration	Basis
chlorine	7782-50-5	TWA	0.5 ppm	ACGIH
		STEL	1 ppm	ACGIH
		Ceiling	0.5 ppm 1.45 mg/m ³	NIOSH REL
		C	1 ppm 3 mg/m ³	OSHA Z1

Contains no substances with occupational exposure limit values.

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection : No special protective equipment required.

Skin protection : No special protective equipment required.

Respiratory protection : No personal respiratory protective equipment normally required.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

Product AT USE DILUTION

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection : No special protective equipment required.

Skin protection : No special protective equipment required.

Respiratory protection : No personal respiratory protective equipment normally required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

	Product AS SOLD	Product AT USE DILUTION
Appearance	: solid	liquid
Color	: opaque, white	colorless
Odor	: Chlorine	odorless
pH	: 11.0 - 11.8, 1 %	10.79 - 10.91
Flash point	: Not applicable	
Odor Threshold	: No data available	

SAFETY DATA SHEET

APEX POWER PLUS

Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: No data available
Thermal decomposition	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Molecular weight	: No data available
VOC	: No data available

SECTION 10. STABILITY AND REACTIVITY

Product AS SOLD

Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Mixing this product with acid or ammonia releases chlorine gas. No dangerous reaction known under conditions of normal use.
Conditions to avoid	: None known.
Incompatible materials	: Acids Bases
Hazardous decomposition products	: Decomposition products may include the following materials: Carbon oxides Nitrogen oxides (NOx) Sulfur oxides Oxides of phosphorus

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Eye contact, Skin contact

Potential Health Effects

SAFETY DATA SHEET

APEX POWER PLUS

Product AS SOLD

Eyes	: Causes eye irritation.
Skin	: Health injuries are not known or expected under normal use.
Ingestion	: Health injuries are not known or expected under normal use.
Inhalation	: Health injuries are not known or expected under normal use.
Chronic Exposure	: Health injuries are not known or expected under normal use.

Product AT USE DILUTION

Eyes	: Health injuries are not known or expected under normal use.
Skin	: Health injuries are not known or expected under normal use.
Ingestion	: Health injuries are not known or expected under normal use.
Inhalation	: Health injuries are not known or expected under normal use.
Chronic Exposure	: Health injuries are not known or expected under normal use.

Experience with human exposure

Product AS SOLD

Eye contact	: Redness, Irritation
Skin contact	: No symptoms known or expected.
Ingestion	: No symptoms known or expected.
Inhalation	: No symptoms known or expected.

Product AT USE DILUTION

Eye contact	: No symptoms known or expected.
Skin contact	: No symptoms known or expected.
Ingestion	: No symptoms known or expected.
Inhalation	: No symptoms known or expected.

Toxicity

Product AS SOLD

Acute oral toxicity	: Acute toxicity estimate : 2,965 mg/kg
Acute inhalation toxicity	: No data available
Acute dermal toxicity	: Acute toxicity estimate : > 5,000 mg/kg
Skin corrosion/irritation	: No skin irritation
Serious eye damage/eye irritation	: Mild eye irritation
Respiratory or skin sensitization	: No data available
Carcinogenicity	: No data available
Reproductive effects	: No data available

SAFETY DATA SHEET

APEX POWER PLUS

Germ cell mutagenicity : No data available
Teratogenicity : No data available
STOT-single exposure : No data available
STOT-repeated exposure : No data available
Aspiration toxicity : No data available

SECTION 12. ECOLOGICAL INFORMATION

Product AS SOLD Ecotoxicity

Environmental Effects : Harmful to aquatic life.

Product

Toxicity to fish : No data available
Toxicity to daphnia and other aquatic invertebrates : No data available
Toxicity to algae : No data available

Ingredients

Toxicity to fish : sodium metasilicate
96 h LC50 Fish: 210 mg/l

Alcohol ethoxylate
96 h LC50: > 1 mg/l

oxirane, methyl-, polymer with oxirane
96 h LC50 Fish: > 100 mg/l

Ingredients

Toxicity to daphnia and other aquatic invertebrates : Sodium Carbonate(soda)
48 h EC50 Daphnia : 200 mg/l

Sodium Dichloro s Triazinetrione Dihydrate
48 h EC50 Daphnia : 0.196 mg/l

Phosphonates
48 h EC50: 167 mg/l

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

SAFETY DATA SHEET

APEX POWER PLUS

Product AS SOLD

Disposal methods : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Product AT USE DILUTION

Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

Product AS SOLD

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Not dangerous goods

Sea transport (IMDG/IMO)

Not dangerous goods

Product AT USE DILUTION

Not intended for transport.

SECTION 15. REGULATORY INFORMATION

Product AS SOLD

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SAFETY DATA SHEET

APEX POWER PLUS

California Prop 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

Switzerland. New notified substances and declared preparations :

not determined

United States TSCA Inventory :

On TSCA Inventory

Canadian Domestic Substances List (DSL) :

All components of this product are on the Canadian DSL.

Australia Inventory of Chemical Substances (AICS) :

not determined

New Zealand. Inventory of Chemical Substances :

On the inventory, or in compliance with the inventory

Japan. ENCS - Existing and New Chemical Substances Inventory :

not determined

Japan. ISHL - Inventory of Chemical Substances (METI) :

not determined

Korea. Korean Existing Chemicals Inventory (KECI) :

not determined

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :

not determined

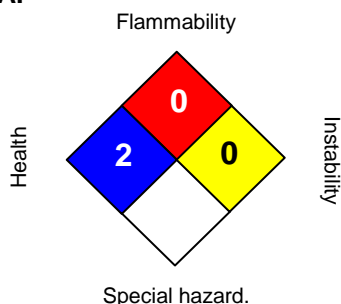
China. Inventory of Existing Chemical Substances in China (IECSC) :

not determined

SECTION 16. OTHER INFORMATION

Product AS SOLD

NFPA:



HMIS III:

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0

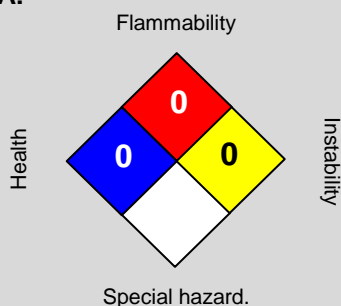
0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Product AT USE DILUTION

SAFETY DATA SHEET

APEX POWER PLUS

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Issuing date : 11/19/2014
Version : 1.3
Prepared by : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



SAFETY DATA SHEET

APEX RINSE ADDITIVE

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : APEX RINSE ADDITIVE

Other means of identification : Not applicable

Recommended use : Rinse additive

Restrictions on use : Reserved for industrial and professional use.

Product dilution information : 0.0018 % - 0.0044 %

Company : Ecolab Inc.
370 N. Wabasha Street
St. Paul, Minnesota USA 55102
1-800-352-5326

Emergency telephone : 1-800-328-0026 (US/Canada), 1-651-222-5352 (outside US)

Issuing date : 10/27/2014

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Product AS SOLD

Eye irritation : Category 2B

Product AT USE DILUTION

Not a hazardous substance or mixture.

GHS Label element

Product AS SOLD

Signal Word : Warning

Hazard Statements : Causes eye irritation.

Precautionary Statements : **Prevention:**
Wash skin thoroughly after handling.
Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Product AT USE DILUTION

Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Get medical advice/ attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Other hazards : None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product AS SOLD

SAFETY DATA SHEET

APEX RINSE ADDITIVE

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration (%)
oxirane, methyl-, polymer with oxirane	9003-11-6	30 - 60
Urea	57-13-6	30 - 60
alcohols, c10-16, ethoxylated	68002-97-1	10 - 30

Product AT USE DILUTION

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

Product AS SOLD

- In case of eye contact : Rinse with plenty of water.
- In case of skin contact : Rinse with plenty of water.
- If swallowed : Rinse mouth. Get medical attention if symptoms occur.
- If inhaled : Get medical attention if symptoms occur.
- Protection of first-aiders : No special precautions are necessary for first aid responders.
- Notes to physician : Treat symptomatically.

Product AT USE DILUTION

- In case of eye contact : Rinse with plenty of water.
- In case of skin contact : Rinse with plenty of water.
- If swallowed : Rinse mouth. Get medical attention if symptoms occur.
- If inhaled : Get medical attention if symptoms occur.

See toxicological information (Section 11)

SECTION 5. FIRE-FIGHTING MEASURES

Product AS SOLD

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : None known.
- Specific hazards during fire fighting : Not flammable or combustible.
- Hazardous combustion products : Decomposition products may include the following materials:
Carbon oxides
Nitrogen oxides (NO_x)
Sulfur oxides
Oxides of phosphorus
- Special protective equipment for fire-fighters : Use personal protective equipment.
- Specific extinguishing : Fire residues and contaminated fire extinguishing water must be

SAFETY DATA SHEET

APEX RINSE ADDITIVE

methods

disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Product AS SOLD

Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Do not allow contact with soil, surface or ground water.

Methods and materials for containment and cleaning up : Sweep up and shovel into suitable containers for disposal.

Product AT USE DILUTION

Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.

Environmental precautions : No special environmental precautions required.

Methods and materials for containment and cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

SECTION 7. HANDLING AND STORAGE

Product AS SOLD

Advice on safe handling : Wash hands thoroughly after handling.

Conditions for safe storage : Keep out of reach of children. Store in suitable labeled containers.

Storage temperature : 0 °C to 50 °C

Product AT USE DILUTION

Advice on safe handling : Wash hands after handling. For personal protection see section 8.

Conditions for safe storage : Keep out of reach of children. Store in suitable labeled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Product AS SOLD

Ingredients with workplace control parameters

Ingredients	CAS-No.	Form of exposure	Permissible concentration	Basis
Urea	57-13-6	TWA	10 mg/m ³	WEEL

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

SAFETY DATA SHEET

APEX RINSE ADDITIVE

Eye protection	: No special protective equipment required.
Hand protection	: No special protective equipment required.
Skin protection	: No special protective equipment required.
Respiratory protection	: No personal respiratory protective equipment normally required.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice.

Product AT USE DILUTION

Engineering measures	: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
----------------------	--

Personal protective equipment

Eye protection	: No special protective equipment required.
Hand protection	: No special protective equipment required.
Skin protection	: No special protective equipment required.
Respiratory protection	: No personal respiratory protective equipment normally required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

	Product AS SOLD	Product AT USE DILUTION
Appearance	: Extruded solid.	liquid
Color	: clear, dark green	colorless
Odor	: odorless	odorless
pH	: 4.5 - 7.0, 1 %	6.5 - 8.5
Flash point	: Not applicable	
Odor Threshold	: No data available	
Melting point/freezing point	: No data available	
Initial boiling point and boiling range	: No data available	
Evaporation rate	: No data available	
Flammability (solid, gas)	: No data available	
Upper explosion limit	: No data available	
Lower explosion limit	: No data available	
Vapor pressure	: No data available	
Relative vapor density	: No data available	
Relative density	: 1.0 - 1.2	
Water solubility	: soluble	
Solubility in other solvents	: No data available	
Partition coefficient: n-octanol/water	: No data available	
Autoignition temperature	: No data available	

SAFETY DATA SHEET

APEX RINSE ADDITIVE

Thermal decomposition	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Molecular weight	: No data available
VOC	: No data available

SECTION 10. STABILITY AND REACTIVITY

Product AS SOLD

Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reaction known under conditions of normal use.
Conditions to avoid	: None known.
Incompatible materials	: None known.
Hazardous decomposition products	: Decomposition products may include the following materials: Carbon oxides Nitrogen oxides (NO _x) Sulfur oxides Oxides of phosphorus

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	: Eye contact
--	---------------

Potential Health Effects

Product AS SOLD

Eyes	: Causes eye irritation.
Skin	: Health injuries are not known or expected under normal use.
Ingestion	: Health injuries are not known or expected under normal use.
Inhalation	: Health injuries are not known or expected under normal use.
Chronic Exposure	: Health injuries are not known or expected under normal use.

Product AT USE DILUTION

Eyes	: Health injuries are not known or expected under normal use.
Skin	: Health injuries are not known or expected under normal use.
Ingestion	: Health injuries are not known or expected under normal use.
Inhalation	: Health injuries are not known or expected under normal use.
Chronic Exposure	: Health injuries are not known or expected under normal use.

Experience with human exposure

SAFETY DATA SHEET

APEX RINSE ADDITIVE

Product AS SOLD

Eye contact	: Redness, Irritation
Skin contact	: No symptoms known or expected.
Ingestion	: No symptoms known or expected.
Inhalation	: No symptoms known or expected.

Product AT USE DILUTION

Eye contact	: No symptoms known or expected.
Skin contact	: No symptoms known or expected.
Ingestion	: No symptoms known or expected.
Inhalation	: No symptoms known or expected.

Toxicity

Product AS SOLD

Acute oral toxicity	: Acute toxicity estimate : 2,815 mg/kg
Acute inhalation toxicity	: No data available
Acute dermal toxicity	: No data available
Skin corrosion/irritation	: No skin irritation
Serious eye damage/eye irritation	: Mild eye irritation
Respiratory or skin sensitization	: No data available
Carcinogenicity	: No data available
Reproductive effects	: No data available
Germ cell mutagenicity	: No data available
Teratogenicity	: No data available
STOT-single exposure	: No data available
STOT-repeated exposure	: No data available
Aspiration toxicity	: No data available

Ingredients

Acute inhalation toxicity	: Urea 4 h LC50 Rat: > 2.71 mg/l alcohols, c10-16, ethoxylated 4 h LC50 Rat: > 50 mg/l
---------------------------	---

Ingredients

Acute dermal toxicity	: Urea LD50 Rat: 8,200 mg/kg
-----------------------	---------------------------------

SECTION 12. ECOLOGICAL INFORMATION

Product AS SOLD

Ecotoxicity

SAFETY DATA SHEET

APEX RINSE ADDITIVE

Environmental Effects : Toxic to aquatic life.

Product

Toxicity to fish : No data available

Toxicity to daphnia and other aquatic invertebrates : No data available

Toxicity to algae : No data available

Ingredients

Toxicity to fish : oxirane, methyl-, polymer with oxirane
96 h LC50 Fish: > 100 mg/l

Urea
96 h LC50 Fish: 127.9 mg/l

Ingredients

Toxicity to daphnia and other aquatic invertebrates : alcohols, c10-16, ethoxylated
48 h EC50: > 0.1 mg/l

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Product AS SOLD

Disposal methods : The product should not be allowed to enter drains, water courses or the soil.

Disposal considerations : Dispose of in accordance with local, state, and federal regulations.

Product AT USE DILUTION

Disposal methods : Diluted product can be flushed to sanitary sewer.

Disposal considerations : Dispose of in accordance with local, state, and federal regulations.

SECTION 14. TRANSPORT INFORMATION

Product AS SOLD

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Not dangerous goods

SAFETY DATA SHEET

APEX RINSE ADDITIVE

Sea transport (IMDG/IMO)

Not dangerous goods

Product AT USE DILUTION

Not intended for transport.

SECTION 15. REGULATORY INFORMATION

Product AS SOLD

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

Switzerland. New notified substances and declared preparations :

The mixture contains substances listed on the Swiss Inventory

United States TSCA Inventory :

On TSCA Inventory

Canadian Domestic Substances List (DSL) :

All components of this product are on the Canadian DSL.

Australia Inventory of Chemical Substances (AICS) :

not determined

New Zealand. Inventory of Chemical Substances :

On the inventory, or in compliance with the inventory

Japan. ENCS - Existing and New Chemical Substances Inventory :

not determined

Japan. ISHL - Inventory of Chemical Substances (METI) :

not determined

Korea. Korean Existing Chemicals Inventory (KECI) :

On the inventory, or in compliance with the inventory

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :

On the inventory, or in compliance with the inventory

SAFETY DATA SHEET

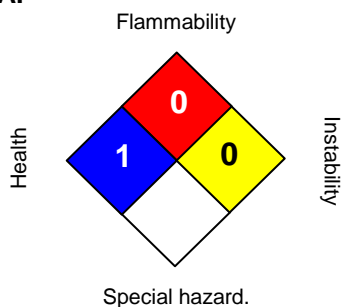
APEX RINSE ADDITIVE

China. Inventory of Existing Chemical Substances in China (IECSC) :
On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Product AS SOLD

NFPA:



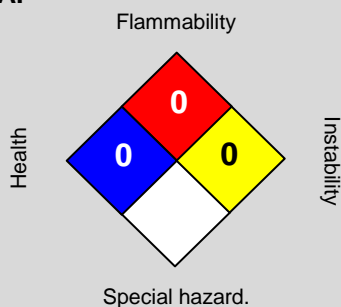
HMIS III:

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Product AT USE DILUTION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Issuing date : 10/27/2014
Version : 1.1
Prepared by : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

MATERIAL SAFETY DATA SHEET

Date Printed: 06/03/04

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT CODE: MS-20500'S
PRODUCT NAME: APPLE BARREL SERIES

PLAID ENTERPRISES, INC.
3225 WESTECH DRIVE
NORCROSS, GA 30092

PHONE: 678-291-8100 CHEMTREC 24-HOUR PHONE: 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT/EXPOSURE LIMITS	CAS#	% BY WT.
---------------------------	------	----------

*****No reportable quantities of hazardous materials are present.*****

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYE: Direct contact with material may cause slight irritation.

SKIN: Prolonged or repeated contact may cause slight skin irritation.

INGESTION: Not an anticipated route of exposure. Small amounts are not anticipated to be harmful.

INHALATION: Exposure to vapors in poorly ventilated areas may cause irritation of the nose, throat, and respiratory tract.

CHRONIC (CANCER) INFORMATION: No anticipated chronic effects. This product does not contain regulated levels of NTP, IARC, ACGIH or OSHA listed carcinogens.

TERATOLOGY (BIRTH DEFECT) INFORMATION: Product does not contain chemicals at levels known to cause birth defects.

REPRODUCTION INFORMATION: Product does not contain chemicals at levels known to cause reproductive toxicity.

4. FIRST AID MEASURES

M A T E R I A L S A F E T Y D A T A S H E E T

Date Printed: 06/03/04

EYES: Flush eyes with a large amount of water for at least 15 minutes. Consult a physician if irritation persists.

SKIN: Wash affected skin areas thoroughly with soap and water. Consult a physician if irritation persists.

INGESTION: Small amounts are not anticipated to be harmful. Give 2 glasses of water to drink.

INHALATION: Remove to fresh air. Get medical attention if breathing is difficult.

NOTE TO PHYSICIANS: Please contact your local poison control center for information regarding this product.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: Not Determined **METHOD:** Not Determined

FLAMMABLE LIMITS:

LOWER FLAMMABLE LIMIT: Not Determined

UPPER FLAMMABLE LIMIT: Not Determined

AUTOIGNITION TEMPERATURE: Not Applicable.

HAZARDOUS COMBUSTION PRODUCTS: Not Applicable

EXTINGUISHING MEDIA: Use extinguishing media appropriate for surrounding fire, water spray, foam, carbon dioxide, or dry chemical.

FIREFIGHTING INSTRUCTIONS: Use water spray to cool containers not actively involved in fire. Self-contained breathing apparatus recommended for fire fighters.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Absorb spill with inert material.

LARGE SPILL: Floor may be slippery, use care to avoid falling. Contain spills immediately with inert materials (e.g. sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal. Caution: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

MATERIAL SAFETY DATA SHEET

Date Printed: 06/03/04

7. HANDLING AND STORAGE

HANDLING: Avoid employee exposure through the use of appropriate engineering controls, adequate personal protective equipment, and good industrial hygiene practices. Wash thoroughly after handling. Handle in well-ventilated workspace.

STORAGE: Store in a moderate cool, dry, well ventilated area away from direct sources of heat. Avoid freezing (32F). Position containers so that any labeling information is visible. Keep containers closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: The use of local exhaust ventilation is recommended to control emissions near the source. Additional engineering controls should be used as necessary.

RESPIRATORY PROTECTION: Respiratory protection is generally not required. A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

SKIN PROTECTION: Impervious clothing should be worn when gross contact is likely, such as when cleaning up large spills. Neoprene gloves may provide protection against permeation.

EYE PROTECTION: Use safety glasses with side shields (ANSI Z87.1 or approved equivalent).

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 212 Deg. F

MELTING POINT: Not determined.

VAPOR PRESSURE: Not Determined

VAPOR DENSITY: Not Determined.

SOLUBILITY IN WATER: 100% Soluble or dispersible.

SPECIFIC GRAVITY: 1.42

PH: 8.5 to 9.5

ODOR: Acrylic odor

APPEARANCE: Colored dispersion.

COATING VOC: .4 lb/gl

MATERIAL VOC: .13 lb/gl

MATERIAL SAFETY DATA SHEET

Date Printed: 06/03/04

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (CONDITIONS TO AVOID): This material is considered stable. However, avoid temperatures above 177C/350F, the onset of polymer decomposition. Thermal decomposition is dependent on time and temperature.

INCOMPATIBILITY: There are no known materials which are incompatible with this product.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition will not occur.

HAZARDOUS POLYMERIZATION: Product will not undergo polymerization.

11. TOXICOLOGICAL INFORMATION

As packaged for consumers, this product is certified in a toxicological evaluation by a medical expert to contain no materials in sufficient quantities to be toxic or injurious to humans, including children, or to cause acute or chronic health problems.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No applicable data.

CHEMICAL FATE INFORMATION: Appreciable evaporation from water to air is expected in the environment. No appreciable bioconcentration is expected in the environment.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Local, State, and Federal waste disposal regulations.

14. TRANSPORT INFORMATION:

NOT MEANT TO BE ALL INCLUSIVE

US DOT Hazard Class.....Nonregulated

15. REGULATORY INFORMATION:

NOT MEANT TO BE ALL INCLUSIVE - SELECTED REGULATIONS REPRESENTED

U.S. FEDERAL REGULATIONS: The components of this product are included on the TSCA inventory.

M A T E R I A L S A F E T Y D A T A S H E E T

Date Printed: 06/03/04

OSHA: This product is considered non-hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200)

CERCLA: SARA HAZARD CATEGORY: Release of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304.

SECTION 313: This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

INTERNATIONAL REGULATIONS:

CANADIAN WHMIS: This product is not a controlled product under the Canadian Workplace Hazardous Materials Information System (WHMIS).

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): All components of this product are on the Domestic Substances List (DSL), and acceptable for use under the provisions of CEPA.

EINECS: All the components of this product are on the European Inventory of Existing Commercial Chemical Substances.

STATE REGULATIONS:

VOLATILE ORGANIC COMPOUNDS: The Volatile Organic Compounds (VOCs) are below the emission limits as regulated by The Environmental Protection Agency (EPA) and state regulations.

16. OTHER INFORMATION

NAME OF PREPARER: Dewey Wright

REVISION DATE: 01/14/03

HMIS CODES: H F R P
 1 0 0 A

HMIS HAZARD RATINGS: H=HEALTH, F=FIRE, R=REACTIVITY, P=PERSONAL

SCALE: 0=MINIMAL, 1=SLIGHT, 2=MODERATE, 3=SERIOUS, 4=SEVERE

M A T E R I A L S A F E T Y D A T A S H E E T

Date Printed: 06/03/04

PERSONAL PROTECTION: See Section 8, Exposure Controls/Personal Protection for recommended handling of material as supplied; check with supervisor for your actual use condition.

HMIS is a registered trademark of the National Paint and Coatings Association.

LIST OF ACRONYMS:

ACGIH: American Conference of Government Industrial Hygienists

IARC: International Agency for Research on Cancer

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

PPM: Parts Per Million

SARA: Superfund Amendment Reauthorization Act

TLV: Threshold Limit Value

TSCA: Toxic Substance Control Act

Please note that this MSDS applies to industrial handling of this material. Consumers should read product label. The information and recommendations set forth herein are believed to be accurate. The data is derived from information provided to Plaid Enterprises, Inc. from its raw material suppliers. Plaid Enterprises, Inc. makes no guarantee or warranty, expressed or implied, regarding the accuracy, reliability, or completeness of the data or the results to be obtained from the use thereof. It is the responsibility of the user of the product to comply with all applicable federal, state, and local laws and regulations.

MATERIAL SAFETY DATA SHEET

Date Printed: 06/03/04



Maintenance Solutions

Aqua Treat

Waterbased Mop Treatment



For Use On:

Vinyl Tile
Vinyl Asbestos
Asphalt Tile
Linoleum

Wood
Concrete
Flagstone

Cork
Terrazzo
Quarry Tile

DESCRIPTION

A non-flammable waterbased dust mop treatment that is compatible with all floor polishes and gym finishes. Because the product contains no oil, it eliminates flammability, oily residues, and streaking associated with oil-based mop treatments.

DIRECTIONS

Spray product directly onto new mop or a mop that has been cleaned thoroughly. Use about 1 ounce of product for each 6 inches of mop. After each use, shake dust mop thoroughly to remove loose soil. Before re-treating dust mop, vacuum head thoroughly. Re-treat dust mop every two (2) weeks. Spray lightly onto dust cloth before dusting furniture, woodwork, window frames, sills, and wherever dust gathers.

This product meets the maximum content requirements for Volatile Organic Compounds (VOCs) as established by state

PRODUCT SPECIFICATIONS

Color:	Light amber	Oil Content:	None
Odor:	Banana	Residue:	None
pH:	7.5 -8.0	Clean Air Requirements:	Contains no VOC's
Viscosity:	Water thin	Biodegradability:	Completely
Foam:	None	Storage/Stability:	2 years
Abrasives:	None	Weight per Gallon:	8.55 lbs./gal.
Flash Point:	None		

SECTION 1-PRODUCT IDENTIFICATION AND SUPPLIER INFORMATION

Manufacturer's Name:
Misco Products Corporation
Manufacturer's Address:
1048 Stinson Drive Reading, PA 19605
Manufacturer's Phone #: (610) 926-4106

Product Name: Aquatreat
Generic Name: Waterbased Mop Treatment
Chemical Family: Glycol/Detergent Blend
Formula: Proprietary

Supplier's Name:
Supplier's Address:
Supplier's Phone #:

SECTION 2-INGREDIENT INFORMATION

CHEMICAL NAME	CAS NO.	WT. %	PEL	TWA-TLV	STEL-TLV
Water	7732-18-5	to 100			
Ethylene Glycol	107-21-1	20 to 25	N/A	C50 ppm	N/A
Nonionic Surfactant	9016-45-9	0 to 5			
n-Amyl Acetate	628-63-7	0 to 5	100 ppm	100 ppm	N/A

SECTION 3-PHYSICAL DATA

Boiling Point (F): 225 F. Initial
Vapor Pressure: <20mm Hg @ 68 F.
% Volatile: 70+
Solubility in Water: 100%
Physical Description: Thin clear liquid with pleasant odor.

Specific Gravity: 1.027
Vapor Density (Air=1): >1
pH: 7.5-8.0

Evaporation Rate (Water=1): <1

SECTION 4-FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): N/A
Upper Explosion Limit: N/A
Lower Explosion Limit: N/A
Extinguishing Media: N/A
Special Firefighting Procedures: Non Flammable
Unusual Fire and Explosion Hazards: N/A

SECTION 5-REACTIVITY DATA

Stability: Stable
Hazards Decomposition Products: Carbon Monoxide possible if burned.

Hazardous Polymerization: None
Incompatibility (Materials to Avoid): Strong oxidizers, acids or alkalis.

SECTION 6-STORAGE AND HANDLING INFORMATION

Keep out of reach of children. For use by trained personnel only. Keep container closed during storage. For institutional and industrial use only. Avoid contact with eyes, skin and clothing. Avoid breathing of vapors. Use in well-ventilated area.

SECTION 7-HEALTH HAZARDS AND FIRST AID

Effects of Overexposure:

Skin: Repeated exposure to large amounts may result in absorption through the skin, which may cause damage to kidneys and depression of the CNS.

Eyes: May be slightly irritating to the eyes.

Inhalation: May be irritating to mucous membranes of the nose, throat, and lungs. Excessive amounts may cause damage to kidneys or CNS depression.

Ingestion: May cause nausea and vomiting. Large doses can cause CNS depression and kidney damage.

First Aid Procedures:

Skin: Remove contaminated clothing. Wash with soap and water. Seek medical attention if irritation persists.

Eyes: Flush with large quantities of water, holding eyelids open. Seek medical attention.

Inhalation: Get to fresh air. If breathing is difficult, give oxygen. Seek medical attention if symptoms persist.

Ingestion: Dilute with 2 glasses of water and induce vomiting. Seek medical attention immediately.

SECTION 8-SPECIAL PROTECTION INFORMATION

Respiratory Protection: Use in well-ventilated areas.

Ventilation Requirements: Provide local exhaust to keep TLV of Section 2 ingredients below acceptable limit.

Protective Gloves: Chemical resistant rubber or neoprene.

Eye Protection: Safety glasses recommended.

Other Protective Equipment: Eye wash should be provided nearby.

SECTION 9-SPILL OR LEAK PROCEDURES

Steps to be taken in Case Material is Released or Spilled: Floors will become slippery. Avoid walking in product. Keep unessential personnel away. Mop up or otherwise absorb and hold disposal. Avoid discharge to sewer or open waterways.

Waste Disposal Method: Any method in accordance with local, state and federal laws. Best method is to recycle or reuse for intended purpose. Consult local authorities for disposal in public sewer. Do not disposal of into storm drain, stream, river or to ground. Rinse container thoroughly before discarding in trash.

SECTION 10-REGULATORY INFORMATION

SARA Title III - Section 311/312 -Hazard Categories:

No - Fire Hazard

No - Sudden Release of Pressure Hazard

No - Reactivity Hazard

Yes - Immediate (acute) Health Hazard

No - Delayed (chronic) Health Hazard

Shipping Information:

FOR CONTAINERS > 1 Gallon : Cleaning Compound

FOR 1 GALLON CONTAINERS : Cleaning Compound

FOR CONTAINERS < 1 GALLON : Cleaning Compound

HMIS Hazardous Materials Identification System

Health	2
Flammability	0
Reactivity	0
Personal Protection	A

FOR EMERGENCY MEDICAL OR TRANSPORT INFORMATION: CHEM-TEL, Inc. @ 800-255-3924 (24 hours, 7 days per week)

This product contains the following toxic chemical(s) subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

CAS#	Chemical Name	Percent by Weight
107-21-1	Ethylene Glycol	25.0

This product contains the following chemical(s) which have been established to be either a carcinogen or suspected carcinogen.

CAS#	Chemical Name	Percent by Weight
	None	

SECTION 11-OTHER INFORMATION

This company cannot anticipate all conditions of handling and use of this product. Therefore, this company accepts no responsibility for results obtained by the application of this information, or the safety and suitability of our products either alone or in combination with other products. It is the responsibility of the user to provide a safe workplace, using the health and safety information contained herein as a guide. This company will accept no liability for damages or loss incurred from the improper handling and use of this product

**SAFETY DATA SHEET
ARDEX FEATHER FINISH****1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

PRODUCT NAME ARDEX FEATHER FINISH
PRODUCT NO. AFF11, AFF11T, AFF05
SUPPLIER Ardex UK Limited
Homefield Road
Haverhill
Suffolk
CB9 8QP
Tel. 01440 714939
Fax. 01440 716667
e-mail:
safetydatasheets@ardex.co.uk
EMERGENCY TELEPHONE +44 (0) 870 190 6777 (24 hours)

2 HAZARDS IDENTIFICATION

Not regarded as a health or environmental hazard under current legislation.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content	Classification (67/548)
PORTLAND CEMENT	266-043-4	65997-16-2	1-5%	Xi;R41,R36/37/38.

The Full Text for all R-Phrases are Displayed in Section 16

4 FIRST-AID MEASURES**GENERAL INFORMATION**

No recommendation given.

INHALATION

Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

INGESTION

Immediately rinse mouth and provide fresh air. Get medical attention if any discomfort continues. Do not induce vomiting.

SKIN CONTACT

Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if irritation persists after washing.

EYE CONTACT

Remove victim immediately from source of exposure. Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

5 FIRE-FIGHTING MEASURES**EXTINGUISHING MEDIA**

This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

6 ACCIDENTAL RELEASE MEASURES**PERSONAL PRECAUTIONS**

Wear protective clothing as described in Section 8 of this safety data sheet.

SPILL CLEAN UP METHODS

Avoid generation and spreading of dust. Shovel into dry containers. Cover and move the containers. Flush the area with water.

7 HANDLING AND STORAGE**USAGE PRECAUTIONS**

Avoid inhalation of dust and contact with skin and eyes.

ARDEX FEATHER FINISH**STORAGE PRECAUTIONS**

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

STORAGE CLASS

Unspecified storage.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	Std	TWA - 8 hrs		STEL - 15 min		Notes
PORTLAND CEMENT			10 mg/m3 total dust			

INGREDIENT COMMENTS

WEL = Workplace Exposure Limits

PROTECTIVE EQUIPMENT**ENGINEERING MEASURES**

Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of dust.

RESPIRATORY EQUIPMENT

No specific recommendation made, but protection against nuisance dust must be used when the general level exceeds 10 mg/m3.

HAND PROTECTION

Use suitable protective gloves if risk of skin contact.

EYE PROTECTION

Wear dust resistant safety goggles where there is danger of eye contact.

OTHER PROTECTION

Wear appropriate clothing to prevent any possibility of skin contact.

HYGIENE MEASURES

Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated.

Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Powder, dust		
COLOUR	White to Grey		
ODOUR	No characteristic odour.		
SOLUBILITY	Disperses. Slightly soluble in water.		
BULK DENSITY	1100 - 1700 kg/m3	VOLATILE BY VOL. (%)	0
pH-VALUE, DILUTED SOLUTION	>12		

10 STABILITY AND REACTIVITY**STABILITY**

Stable under normal temperature conditions.

CONDITIONS TO AVOID

Avoid contact with acids.

HAZARDOUS POLYMERISATION

Not relevant.

HAZARDOUS DECOMPOSITION PRODUCTS

No hazardous decomposition products.

11 TOXICOLOGICAL INFORMATION**INHALATION**

Irritating to respiratory system.

INGESTION

May cause discomfort if swallowed.

ARDEX FEATHER FINISH**SKIN CONTACT**

Skin irritation is not anticipated when used normally.

EYE CONTACT

Irritating to eyes.

12 ECOLOGICAL INFORMATION**ECOTOXICITY**

Not regarded as dangerous for the environment.

MOBILITY

The product contains substances which are insoluble in water and which sediment in water systems. The product hardens to a solid immobile substance.

BIOACCUMULATION

Accumulates in soil and sediment.

WATER HAZARD CLASSIFICATION

WGK 1

13 DISPOSAL CONSIDERATIONS**DISPOSAL METHODS**

Dispose of waste and residues in accordance with local authority requirements.

14 TRANSPORT INFORMATION

GENERAL	The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).
	No transport warning sign required.
ROAD TRANSPORT NOTES	Not Classified
RAIL TRANSPORT NOTES	Not classified.
SEA TRANSPORT NOTES	Not classified.
AIR TRANSPORT NOTES	Not classified.
MARINE POLLUTANT	No.

15 REGULATORY INFORMATION**RISK PHRASES**

NC Not classified.

SAFETY PHRASES

P13 Safety data sheet available for professional user on request.

STATUTORY INSTRUMENTS

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).

APPROVED CODE OF PRACTICE

Classification and Labelling of Substances and Preparations Dangerous for Supply. Safety Data Sheets for Substances and Preparations.

GUIDANCE NOTES

Workplace Exposure Limits EH40.

16 OTHER INFORMATION

REVISION DATE 19/10/2010

REV. NO./REPL. SDS GENERATED 2

RISK PHRASES IN FULL

R36/37/38 Irritating to eyes, respiratory system and skin.

R41 Risk of serious damage to eyes.

DISCLAIMER

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Manufacturer's name and address:



ARDEX Engineered Cements
400 Ardex Park Dr.
Aliquippa, PA 15001 USA

Supplier's name and address:

Refer to Manufacturer

Information Telephone No. : (888) 512-7339 or (724) 203-5000
Website Address : <http://www.ardexamericas.com>
24 Hr Emergency Telephone # : CHEM-TEL: 1-800-255-3924 OR 1-813-248-0585 (call collect)
Product Identifier : ARDEX K 15®
Product ID No. : 70011601
Trade Name/Synonyms : K 15
Material Use : Premium Self-Leveling Underlayment
Uses Advised Against : No information available.

SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification per 29 CFR 1910.1200 (OSHA HCS 2012) and HPR (WHMIS 2015)

Skin corrosion/irritation, Category 1A
Serious eye damage/eye irritation, Category 1
Carcinogenicity, Category 1A
Specific target organ toxicity, single exposure; Respiratory tract irritation, Category 3
Specific target organ toxicity, repeated exposure, Category 1.

GHS Pictograms



Signal Word

Danger

Hazard Statements

Causes severe skin burns and eye damage.
May cause cancer by inhalation.
May cause respiratory irritation.
Causes damage to lungs through prolonged or repeated inhalation.

Precautionary Statements

Obtain special instructions before use. (See Section 7.) Do not handle until all safety precautions have been read and understood. Do not breathe dust. Use only outdoors or in a well-ventilated area. Wash hands and exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection. Wash contaminated clothing before reuse. Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store locked up. Dispose of contents / container in accordance with federal, state, and local laws. Do not allow product to enter drains.

Hazards Not Otherwise Classified

None

% With Unknown Acute Toxicity : Up to 58% by weight of this product consists of ingredients with unknown acute toxicity.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (by weight)
Crystalline silica, quartz	14808-60-7	30 – 60
Limestone	1317-65-3	10 – 30
Calcium aluminate cement	65997-16-2	10 – 30
Calcium sulfate	7778-18-9	5 – 10
Portland cement	65997-15-1	1 – 5
Vinyl acetate copolymer	24937-78-8	1 – 5

The exact percentages of the ingredients have been withheld by the manufacturer as trade secrets.

SECTION 4 – FIRST AID MEASURES

- General** : Call a Poison Center or doctor if you feel unwell.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: call a doctor/physician.
- Skin contact** : Remove/Take off immediately all contaminated clothing. Flush affected skin with gently flowing lukewarm water for at least 20 minutes. Seek immediate medical attention/advice.
- Eye contact** : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
- Ingestion** : Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
- Notes for Physician** : Treat symptomatically.

Signs and symptoms of short-term (acute) exposure

- Inhalation* : Symptoms may include coughing and shortness of breath.
- Skin* : Symptoms may include redness and itching. Contact with wet material, or moist areas of skin, causes skin burns. Skin thickening, cracking, or fissuring may occur.
- Eyes* : Direct contact may strongly irritate or burn the eyes. Could cause blindness.
- Ingestion* : Symptoms such as gastric pain, nausea, vomiting, and diarrhea may occur.

Effects of long-term (chronic) exposure

- : Prolonged inhalation may cause adverse lung effects with symptoms including coughing and shortness of breath. Repeated or prolonged inhalation of fine dusts may cause severe scarring of the lungs, a disease called silicosis, and alveolar proteinosis (lower lung disease).

Indication of need for immediate medical attention or special treatment

- : Difficulty breathing persists after removing the person to fresh air.
- Any burn to the skin.
- Any exposure to the eye which causes irritation.
- Ingestion.

SECTION 5 – FIRE FIGHTING MEASURES

- Suitable extinguishing media** : Carbon dioxide, dry chemical powder, foam.
- Unsuitable extinguishing media** : Water. Contact with water may cause hydration and formation of caustic alkaline material.

Hazardous combustion products : Calcium oxide, calcium oxalate, vinyl acetate, acetic acid, formic acid, formaldehydes, carbon monoxide, and carbon dioxide.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. After fires have been extinguished, carefully clean all equipment and surfaces exposed to fumes.

Environmental precautions : Do not allow material to enter drains or contaminate ground water system.

Fire hazards/conditions of flammability

: Not flammable under normal conditions of use.

Flammability classification (OSHA 29 CFR 1910.1200, WHMIS 2015)

: Not flammable

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions : Restrict access to area until completion of clean-up. All persons dealing with clean-up should wear the appropriate chemically protective equipment.

Protective equipment : Refer to Section 8 on this Safety Data Sheet, EXPOSURE CONTROLS / PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Emergency Procedures : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002). Outside of the U.S. call the emergency number listed in Section 1.

US CERCLA Reportable quantity (RQ): None reported.

Methods and materials for containment and cleaning up

: Ventilate area of release. Eliminate all ignition sources. Stop spill or leak at source if safely possible. Contain material, preventing it from entering sewer lines or waterways. Using HEPA vacuum, or other dustless methods, gather up spilled material and place in suitable container for later disposal (see Section 13). Avoid adding water, material becomes alkaline when wet. Notify the appropriate authorities as required.

Prohibited materials : Avoid adding water, material becomes alkaline when wet.

Environmental precautions : Do not allow product to enter drains or waterways. Do not allow material to contaminate ground water system.

Reference to other sections : See Section 13 for disposal information.

SECTION 7 – HANDLING AND STORAGE

Special instructions : Mixing the product according to the directions in the Technical Data Sheet will produce airborne dusts, including crystalline silica. Wear a dust mask (N-95 or higher) while mixing. Use ventilation to control levels of dust in the work area.

Safe handling procedures : Corrosive! Wear chemically resistant protective equipment during handling. Use in a well-ventilated area. Training the workers on the potential health hazards associated with product dust is important. Secondary inhalation exposures could occur when cleaning equipment, or when removing or laundering the clothing. Do not breathe dust. Avoid contact with skin, eyes and clothing. Avoid wet or humid conditions. Keep away from acids and incompatibles. Avoid and control operations which create dust. Keep containers tightly closed when not in use. Wash thoroughly after handling.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from heat and open flame. Avoid storing in direct sunlight. Store in original container. Keep tightly closed when not in use. Do not reuse empty container without commercial cleaning or reconditioning.

Incompatible materials : See Section 10.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible Exposure Limits : No exposure limits have been established for the product itself. Below are exposure limits for the components in the product.

Threshold Limit Values for the Ingredients	CAS #	ACGIH TLV		OSHA PEL	
		TWA	STEL	PEL	STEL
Limestone	1317-65-3	TLV Withdrawn In 2007	N/Av	15 mg/m ³ (Total dust); 5 mg/m ³ (respirable)	N/Av
Calcium aluminate cement	65997-16-2	1 mg/m ³ (as Aluminum metal and insoluble compounds)	N/Av	N/Av	N/Av
Calcium sulfate	7778-18-9	10 mg/m ³ (inhalable)	N/Av	15 mg/m ³ (Total dust); 5 mg/m ³ (respirable)	N/Av
Portland cement	65997-15-1	1 mg/m ³ (respirable, no asbestos and < 1% crystalline silica)	N/Av	15 mg/m ³ (Total dust); 5 mg/m ³ (respirable)	N/Av
Vinyl acetate copolymer	24937-78-8	10 mg/m ³ (Total dust); 3 mg/m ³ (respirable)	N/Av	15 mg/m ³ (Total dust); 5 mg/m ³ (respirable)	N/Av
Crystalline silica, quartz	14808-60-7	0.025 mg/m ³ (respirable fraction)	N/Av	0.05 mg/m ³ (respirable) (final rule limit)	N/Av

Engineering Controls : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. Ventilation should effectively remove and prevent buildup of any dust generated from the handling of this product.

Personal Protection Equipment

- Eye / face protection** : Safety glasses or chemical goggles must be worn when using this product. Additionally, a face shield is recommended if splashing is possible.
- Skin protection** : Wear chemical resistant protective clothing and impervious gloves. Glove materials such as nitrile rubber or Viton (fluorocarbon rubber) are recommended.
- Body protection** : Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact.
- Respiratory protection** : If work process generates excessive quantities of dust, or exposures in excess of any PEL, wear an appropriate particulate respirator (dust mask). Mask should be rated at N-95 or higher.
- Site safety equipment** : An eyewash station and safety shower should be made available in the immediate working area.
- General hygiene considerations** : Avoid contact with eyes, skin and clothing. Do not breathe dust. Do not eat, drink or smoke when using this product. Clean all equipment and clothing at end of each work shift.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: solid	Appearance	: gray powder
Odor	: No odor	Odor threshold	: N/Av
pH	: 10 – 12	Specific gravity	: 2.7 – 3.1

Boiling point	: N/Av	Coefficient of water/oil distribution	: N/Av
Melting/Freezing point	: N/Av	Solubility in water	: < 55 g/L
Vapor pressure (mm Hg @ 20°C / 68°F)	: N/Av	Evaporation rate (n-Butyl acetate = 1)	: N/Av
Vapor density (Air = 1)	: N/Av	Volatiles (% by weight)	: N/Av
Volatile organic compounds (VOCs)	: 0 g/L		
Particle size	: N/Av	Flammability classification	: Not flammable
Flash point	: N/Av	Lower flammable limit (% by vol)	: Not available
Flash point method	: N/Av	Upper flammable limit (% by vol)	: Not available
Auto-ignition temperature	: N/Av	Decomposition temperature	: Not available
Viscosity	: Not available	Oxidizing properties	: Not available
Explosion data: Sensitivity to mechanical impact / static discharge			
: Not expected to be sensitive to mechanical impact or static discharge.			

SECTION 10 – REACTIVITY AND STABILITY INFORMATION

Reactivity	: Contact with water may cause hydration and formation of caustic calcium hydroxide.
Stability	: Stable under the recommended storage and handling conditions prescribed.
Hazardous reactions	: Hazardous polymerization does not occur.
Conditions to avoid	: High temperatures.
Materials to avoid and incompatibility	: Oxidizing agents.
Hazardous decomposition products	: None known, refer to hazardous combustion products in Section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Routes of exposure	: <i>Inhalation</i> : YES <i>Skin Absorption</i> : NO <i>Skin and Eyes</i> : Yes <i>Ingestion</i> : YES
Symptoms of exposure	: See Section 4.

Calculated Acute Toxicity Estimates for the Product

<i>Inhalation</i>	: Not Available
<i>Oral</i>	: Not Available
<i>Dermal</i>	: Not Available

Toxicological data	: There are insufficient data for estimating the product's acute toxicity. Several components become caustic in the presence of water, and therefore should not be inhaled, ingested, or allowed to contact skin. See below for individual ingredient acute toxicity data.
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Acute Toxicity Parameters for the Ingredients	CAS #	LC50, Inhalation mg/L, Rat, 4 hr	LD50, Oral mg/kg, rat	LD50, Dermal mg/kg, rabbit
Limestone	1317-65-3	N/Av	6,450	N/Av
Calcium aluminate cement	65997-16-2	N/Av	N/Av	N/Av
Calcium sulfate	7778-18-9	N/Av	> 3,000	N/Av
Portland cement	65997-15-1	N/Av	N/Av	N/Av
Vinyl acetate copolymer	24937-78-8	N/Av	> 1,000	N/Av
Crystalline silica, quartz	14808-60-7	N/Av	N/Av	N/Av

Skin corrosion or irritation	: Causes skin corrosion when wet.
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- Serious eye damage / eye irritation** : Causes eye burns. May cause blindness.
- Respiratory or skin sensitization** : Portland cement may cause an allergic skin reaction, in hypersensitive individuals possibly due to trace amounts of chromium.
- Germ cell mutagenicity** : None known.
- Carcinogenic status** : This product contains Crystalline silica. Crystalline silica (respirable size) is classified as carcinogenic by inhalation by IARC (Group 1), ACGIH (Group A2), NTP (Group 1) and OSHA (OSHA Select carcinogen). No other components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
- Reproductive toxicity** : None known.
- Specific Target Organ Toxicity, Single Exposure** : May cause respiratory irritation.
- Specific Target Organ Toxicity, Repeated Exposure** : May cause lung damage upon repeated or prolonged exposure.
- Aspiration hazard** : None known.
- Additional information** : N/Av

SECTION 12 – ECOLOGICAL INFORMATION

- Environmental effects** : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.
- Ecotoxicological** : No data is available on the product itself.
- Ecotoxicity** : No data available.
- Biodegradability** : No data available.
- Bioaccumulative potential** : No data available.
- Mobility in soil** : No data available.
- PBT and vPvB assessment** : No data available.
- Other adverse effects** : No data available.

SECTION 13 – DISPOSAL CONSIDERATION

- Handling for disposal** : Handle waste according to recommendations in Section 7.
- Methods of disposal** : You must test your waste using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.
- Packaging** : Handle contaminated packaging in the same manner as the product.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 – TRANSPORTATION INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	None	This product is not regulated according to Canadian TDG regulations.	None	None	None
TDG Additional Information	None				
49 CFR/DOT	None	This product is not regulated according to US DOT regulations.	None	None	None
49 CFR/DOT Additional	None				

Information	
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SECTION 15 – REGULATORY INFORMATION

Canadian Information:

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR). This SDS contains all of the information required by the HPR.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on either the Domestic Substances List (DSL) or the Non- Domestic Substances List (NDSL).

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): None reported.

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes:

Immediate (Acute) health hazard

Chronic Health Hazard.

Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical constituents above *de minimus* concentrations.

U.S. State Right To Know Laws

California Proposition 65: Warning! This product contains a chemical known to the State of California to cause cancer. It contains Crystalline silica, quartz.

Other State Right to Know Laws:

Ingredient on State RTK Law?	CAS #	CA	MA	MN	NJ	NY	PA	RI
Crystalline silica, quartz	14808-60-7	No	Yes	Yes	Yes	No	Yes	Yes
Limestone	1317-65-3	No	Yes	No	Yes	No	Yes	Yes
Calcium aluminate cement	65997-16-2	No	No	No	No	No	No	No
Calcium sulfate	7778-18-9	No	Yes	No	Yes	No	Yes	No
Portland cement	65997-15-1	No	Yes	No	Yes	No	Yes	Yes
Vinyl acetate copolymer	24937-78-8	No	No	No	No	No	No	No

SECTION 16 – OTHER INFORMATION

HMIS Rating

: * - Chronic Hazard 0 - Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe

Health: *3 Flammability 0 Physical Hazard 1 PPE: G

Gloves, safety glasses, and dust respirator

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstract Services

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980

CFR: Code of Federal Regulations

DOT: Department of Transportation

DSL: Domestic Substances List
EPA: Environmental Protection Agency
GHS: Globally Harmonized System
HPR: Hazardous Products Regulations
IARC: International Agency for Research on Cancer
Inh: Inhalation
N/Av: Not Available
N/Ap: Not Applicable
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

Disclaimer of Liability

The Information presented herein is supplied as a guide to those who handle or use this product and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive. The manner and conditions of use and handling may involve other and additional considerations. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.

No warranty of any kind is given or implied. ARDEX Engineered Cements will not be liable for any damages, losses, injuries or consequential damages which may result from the use or reliance on any information contained herein.

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Revision date: : 26-Aug-2016

End of Document

Material Safety Data Sheet



Nonflammable Gas Mixture: Argon 1-99% / Carbon Dioxide 0.5-99%

Section 1. Chemical product and company identification

Product name	: Nonflammable Gas Mixture: Argon 1-99% / Carbon Dioxide 0.5-99%
Supplier	: AIRGAS INC., on behalf of its subsidiaries 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
Product use	: Synthetic/Analytical chemistry.
MSDS #	: 002031
Date of Preparation/Revision	: 4/12/2013.
In case of emergency	: 1-866-734-3438

Section 2. Hazards identification

Physical state	: Gas.
Emergency overview	: WARNING! MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CONTENTS UNDER PRESSURE. Do not puncture or incinerate container. Avoid contact with eyes, skin and clothing. Contains material that may cause target organ damage, based on animal data. Wash thoroughly after handling. Keep container closed. Avoid breathing gas. Use with adequate ventilation. Contact with rapidly expanding gases can cause frostbite.
Target organs	: Contains material which may cause damage to the following organs: lungs, cardiovascular system, skin, eyes, central nervous system (CNS).
Routes of entry	: Inhalation Dermal Eyes
Potential acute health effects	
Eyes	: Moderately irritating to eyes. Contact with rapidly expanding gas may cause burns or frostbite.
Skin	: Moderately irritating to the skin. Contact with rapidly expanding gas may cause burns or frostbite.
Inhalation	: Moderately irritating to the respiratory system.
Ingestion	: Ingestion is not a normal route of exposure for gases
Potential chronic health effects	
Chronic effects	: Contains material that may cause target organ damage, based on animal data.
Target organs	: Contains material which may cause damage to the following organs: lungs, cardiovascular system, skin, eyes, central nervous system (CNS).
Medical conditions aggravated by over-exposure	: Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
See toxicological information (Section 11)	

Section 3. Composition, Information on Ingredients

<u>Name</u>	<u>CAS number</u>	<u>% Volume</u>	<u>Exposure limits</u>
Carbon Dioxide	124-38-9	0.5 - 99	ACGIH TLV (United States, 2/2010). STEL: 54000 mg/m ³ 15 minute(s). STEL: 30000 ppm 15 minute(s). TWA: 9000 mg/m ³ 8 hour(s). TWA: 5000 ppm 8 hour(s). NIOSH REL (United States, 6/2009). STEL: 54000 mg/m ³ 15 minute(s). STEL: 30000 ppm 15 minute(s). TWA: 9000 mg/m ³ 10 hour(s). TWA: 5000 ppm 10 hour(s). OSHA PEL (United States, 6/2010). TWA: 9000 mg/m ³ 8 hour(s). TWA: 5000 ppm 8 hour(s). OSHA PEL 1989 (United States, 3/1989). STEL: 54000 mg/m ³ 15 minute(s). STEL: 30000 ppm 15 minute(s). TWA: 18000 mg/m ³ 8 hour(s). TWA: 10000 ppm 8 hour(s).
Argon	7440-37-1	1 - 99	Oxygen Depletion [Asphyxiant]

Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Frostbite** : Try to warm up the frozen tissues and seek medical attention.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : As this product is a gas, refer to the inhalation section.

Section 5. Fire-fighting measures

- Flammability of the product** : Non-flammable.
- Products of combustion** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
- Fire-fighting media and instructions** : Use an extinguishing agent suitable for the surrounding fire.

Apply water from a safe distance to cool container and protect surrounding area. If involved in fire, shut off flow immediately if it can be done without risk.
Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Shut off gas supply if this can be done safely. Isolate area until gas has dispersed.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : Immediately contact emergency personnel. Stop leak if without risk. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

- Handling** : Wash thoroughly after handling. High pressure gas. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Keep container closed. Avoid contact with skin and clothing. Use with adequate ventilation. Avoid contact with eyes. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
- Storage** : Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

- Engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Personal protection in case of a large spill** : Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product. Full chemical-resistant suit and self-contained breathing apparatus should be worn only by trained and authorized persons.

Product name

Carbon dioxide

ACGIH TLV (United States, 2/2010).

STEL: 54000 mg/m³ 15 minute(s).

STEL: 30000 ppm 15 minute(s).

TWA: 9000 mg/m³ 8 hour(s).

TWA: 5000 ppm 8 hour(s).

NIOSH REL (United States, 6/2009).

STEL: 54000 mg/m³ 15 minute(s).

STEL: 30000 ppm 15 minute(s).

TWA: 9000 mg/m³ 10 hour(s).

TWA: 5000 ppm 10 hour(s).

OSHA PEL (United States, 6/2010).

TWA: 9000 mg/m³ 8 hour(s).

TWA: 5000 ppm 8 hour(s).

OSHA PEL 1989 (United States, 3/1989).

STEL: 54000 mg/m³ 15 minute(s).

STEL: 30000 ppm 15 minute(s).

Nonflammable Gas Mixture: Argon 1-99% / Carbon Dioxide 0.5-99%

TWA: 18000 mg/m³ 8 hour(s).

TWA: 10000 ppm 8 hour(s).

Argon

Oxygen Depletion [Asphyxiant]

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

- Melting/freezing point** : -189.2°C (-308.6°F) This is based on data for the following ingredient: Argon.
- Critical temperature** : Lowest known value: -122.4°C (-188.3°F) (Argon).
- Vapor density** : Highest known value: 1.66 (Air = 1) (Argon). Weighted average: 1.58 (Air = 1)
- Gas Density (lb/ft³)** : Weighted average: 0.11

Section 10. Stability and reactivity

- Stability and reactivity** : The product is stable.
- Incompatibility with various substances** : Not considered to be reactive according to our database.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Toxicity data

Product/ingredient name	Result	Species	Dose	Exposure
Carbon dioxide	LC50 Inhalation Gas.	Rat	470000 ppm	30 minutes

- Chronic effects on humans** : Contains material which may cause damage to the following organs: lungs, cardiovascular system, skin, eyes, central nervous system (CNS).
- Other toxic effects on humans** : No specific information is available in our database regarding the other toxic effects of this material to humans.
- Specific effects**
- Carcinogenic effects** : No known significant effects or critical hazards.
- Mutagenic effects** : No known significant effects or critical hazards.
- Reproduction toxicity** : No known significant effects or critical hazards.

Section 12. Ecological information

Aquatic ecotoxicity

Not available.




- Products of degradation** : Products of degradation: carbon oxides (CO, CO₂).
- Environmental fate** : Not available.
- Environmental hazards** : No known significant effects or critical hazards.
- Toxicity to the environment** : Not available.

Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

Nonflammable Gas Mixture: Argon 1-99% / Carbon Dioxide 0.5-99%

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1956	COMPRESSED GAS, N.O.S.	2.2	Not applicable (gas).		-
TDG Classification	UN1956	COMPRESSED GAS, N.O.S.	2.2	Not applicable (gas).		<u>Explosive Limit and Limited Quantity Index</u> 0.125 <u>Passenger Carrying Road or Rail Index</u> 75
Mexico Classification	UN1956	COMPRESSED GAS, N.O.S.	2.2	Not applicable (gas).		-

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

Section 15. Regulatory information

United States

- U.S. Federal regulations** : TSCA 8(a) IUR: Partial exemption
United States inventory (TSCA 8b): All components are listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Carbon dioxide; Argon
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
Carbon dioxide: Sudden release of pressure, Immediate (acute) health hazard, Delayed (chronic) health hazard; Argon: Sudden release of pressure
- State regulations** : **Connecticut Carcinogen Reporting**: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: The following components are listed: CARBON DIOXIDE; ARGON
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: The following components are listed: CARBON DIOXIDE; CARBONIC ACID GAS; ARGON
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: None of the components are listed.
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed:

Nonflammable Gas Mixture: Argon 1-99% / Carbon Dioxide 0.5-99%

CARBON DIOXIDE; ARGON
Rhode Island Hazardous Substances: None of the components are listed.

Canada

WHMIS (Canada) : Class A: Compressed gas.
CEPA Toxic substances: The following components are listed: Carbon dioxide
Canadian ARET: None of the components are listed.
Canadian NPRI: None of the components are listed.
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Section 16. Other information

United States

Label requirements : MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
CONTENTS UNDER PRESSURE.

Canada

Label requirements : Class A: Compressed gas.

Hazardous Material Information System (U.S.A.)	:	Health	*	1
		Flammability		0
		Physical hazards		0

National Fire Protection Association (U.S.A.)

:

Health

1

0

Flammability

0

Instability

Special

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Argon

Section 1. Identification

GHS product identifier	: Argon
Chemical name	: argon
Other means of identification	: Argon.
Product use	: Synthetic/Analytical chemistry.
Synonym	: Argon.
SDS #	: 001004
Supplier's details	: Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
Emergency telephone number (with hours of operation)	: 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: GASES UNDER PRESSURE - Compressed gas

GHS label elements

Hazard pictograms



Signal word

: Warning

Hazard statements

: Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary statements

General

: Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction.

Prevention

: Use and store only outdoors or in a well ventilated place.

Response

: Not applicable.

Storage

: Protect from sunlight. Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.

Disposal

: Not applicable.

Hazards not otherwise classified

: In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Date of issue/Date of revision

: 2/16/2015.

Date of previous issue

: 2/16/2015.

Version : 0.05

1/11

Section 3. Composition/information on ingredients

Substance/mixture : Substance
Chemical name : argon
Other means of identification : Argon.

CAS number/other identifiers

CAS number : 7440-37-1
Product code : 001004

Ingredient name	%	CAS number
Argon	100	7440-37-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards. Acts as a simple asphyxiant.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Date of issue/Date of revision : 2/16/2015. **Date of previous issue** : 2/16/2015. **Version** : 0.05 2/11

Section 4. First aid measures

- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.
- Hazardous thermal decomposition products** : No specific data.

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Immediately contact emergency personnel. Stop leak if without risk.
- Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Argon	Oxygen Depletion [Asphyxiant]

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Gas.
- Color** : Colorless.
- Molecular weight** : 39.95 g/mole
- Molecular formula** : Ar
- Boiling/condensation point** : -185.9°C (-302.6°F)
- Melting/freezing point** : -189.2°C (-308.6°F)
- Critical temperature** : -122.4°C (-188.3°F)
- Odor** : Odorless.
- Odor threshold** : Not available.
- pH** : Not available.
- Flash point** : [Product does not sustain combustion.]
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : 1.66 (Air = 1)
- Specific Volume (ft³/lb)** : 9.7087
- Gas Density (lb/ft³)** : 0.103
- Relative density** : Not applicable.
- Solubility** : Not available.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : 0.74
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.

Section 9. Physical and chemical properties

SADT : Not available.

Viscosity : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Section 11. Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.
Inhalation : No known significant effects or critical hazards. Acts as a simple asphyxiant.
Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.
Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Section 12. Ecological information

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Argon	0.74	-	low

Mobility in soil






Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1006	UN1006	UN1006	UN1006	UN1006
UN proper shipping name	ARGON, COMPRESSED	ARGON, COMPRESSED	ARGON, COMPRESSED	ARGON, COMPRESSED	ARGON, COMPRESSED
Transport hazard class(es)	2.2 	2.2 	2.2 	2.2 	2.2 
Packing group	-	-	-	-	-
Environment	No.	No.	No.	No.	No.
Additional information	Limited quantity Yes. Packaging instruction Passenger aircraft Quantity limitation: 75 kg Cargo aircraft Quantity limitation: 150 kg	Explosive Limit and Limited Quantity Index 0.125 Passenger Carrying, Road or Rail Index 75 Special provisions 42	-	-	Passenger and Cargo Aircraft Quantity limitation: 75 kg Cargo Aircraft Only Quantity limitation: 150 kg

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

Section 14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** This material is listed or exempted.
United States inventory (TSCA 8b): This material is listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Sudden release of pressure

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Argon	100	No.	Yes.	No.	No.	No.

State regulations

Massachusetts : This material is listed.

New York : This material is not listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

Canada inventory : This material is listed or exempted.

International regulations

Section 15. Regulatory information

International lists	Australia inventory (AICS): This material is listed or exempted. China inventory (IECSC): This material is listed or exempted. Japan inventory: Not determined. Korea inventory: This material is listed or exempted. Malaysia Inventory (EHS Register): Not determined. New Zealand Inventory of Chemicals (NZIoC): This material is listed or exempted. Philippines inventory (PICCS): This material is listed or exempted. Taiwan inventory (CSNN): Not determined.
Chemical Weapons Convention List Schedule I Chemicals	: Not listed
Chemical Weapons Convention List Schedule II Chemicals	: Not listed
Chemical Weapons Convention List Schedule III Chemicals	: Not listed

Canada

WHMIS (Canada)	: Class A: Compressed gas.
CEPA Toxic substances:	This material is not listed.
Canadian ARET:	This material is not listed.
Canadian NPRI:	This material is not listed.
Alberta Designated Substances:	This material is not listed.
Ontario Designated Substances:	This material is not listed.
Quebec Designated Substances:	This material is not listed.

Section 16. Other information

Canada Label requirements : Class A: Compressed gas.

Hazardous Material Information System (U.S.A.)

Health	0
Flammability	0
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



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Section 16. Other information

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

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Version : 0.05

Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 UN = United Nations
 ACGIH – American Conference of Governmental Industrial Hygienists
 AIHA – American Industrial Hygiene Association
 CAS – Chemical Abstract Services
 CEPA – Canadian Environmental Protection Act
 CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act (EPA)
 CFR – United States Code of Federal Regulations
 CPR – Controlled Products Regulations
 DSL – Domestic Substances List
 GWP – Global Warming Potential
 IARC – International Agency for Research on Cancer
 ICAO – International Civil Aviation Organisation
 Inh – Inhalation
 LC – Lethal concentration
 LD – Lethal dosage
 NDSL – Non-Domestic Substances List
 NIOSH – National Institute for Occupational Safety and Health
 TDG – Canadian Transportation of Dangerous Goods Act and Regulations
 TLV – Threshold Limit Value
 TSCA – Toxic Substances Control Act
 WEEL – Workplace Environmental Exposure Level
 WHMIS – Canadian Workplace Hazardous Material Information System

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



The Armor All/STP Products Company
1221 Broadway
Oakland, CA 94612
Tel. 1-510-271-7000

Material Safety Data Sheet

I Product: ARMOR ALL® ULTRA SHINE WASH & WAX											
Description: CLEAR, THICK, ORANGE LIQUID WITH A FRUITY, APPLE, MELON SCENT											
Other Designations	Distributor	Emergency Telephone Nos.									
	The Armor All/STP Products Company 1221 Broadway Oakland, CA 94612	For Medical Emergencies, call 1-800-446-1014. For Transportation Emergencies, call 1-800-424-9300 (Chemtrec).									
II Health Hazard Data		III Hazardous Ingredients									
Eye irritant. Prolonged skin contact may cause irritation. No medical conditions are known to be aggravated by exposure to this product. <u>FIRST AID:</u> <u>EYE CONTACT:</u> Rinse with water for 15 minutes. If irritation persists, call a doctor. <u>SKIN CONTACT:</u> Rinse with plenty of water. If irritation persists, call a doctor. <u>INGESTION:</u> Drink a glassful of water. Call a doctor or poison control center. <u>INHALATION:</u> Remove to fresh air. If breathing problems develop, call a doctor.		<table border="1"><thead><tr><th>Ingredient</th><th>Concentration</th><th>Worker Exposure Limit</th></tr></thead><tbody><tr><td>Sodium alkylbenzenesulfonate CAS # 68081-81-2</td><td>1 - 5%</td><td>Not established.</td></tr><tr><td>Sodium α-olefin sulfonate CAS # 68439-57-6</td><td>1 - 5%</td><td>Not established.</td></tr></tbody></table> None of the materials in this product are on the IARC, NTP, or OSHA carcinogen lists.	Ingredient	Concentration	Worker Exposure Limit	Sodium alkylbenzenesulfonate CAS # 68081-81-2	1 - 5%	Not established.	Sodium α-olefin sulfonate CAS # 68439-57-6	1 - 5%	Not established.
Ingredient	Concentration	Worker Exposure Limit									
Sodium alkylbenzenesulfonate CAS # 68081-81-2	1 - 5%	Not established.									
Sodium α-olefin sulfonate CAS # 68439-57-6	1 - 5%	Not established.									
IV Special Protection and Precautions		V Transportation and Regulatory Data									
<u>Hygienic Practices:</u> Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods. <u>Engineering Controls:</u> Use local exhaust to minimize exposure to product mist. <u>Personal Protective Equipment:</u> Wear safety glasses. Wear rubber or neoprene gloves if there is the potential for repeated or prolonged skin contact.		<u>DOT/IATA/IMDG:</u> Not restricted. <u>EPA - SARA Title III/CERCLA:</u> This product is regulated under Sections 311/312. This product contains diethanolamine (CAS # 111-42-2, <0.1%) that is regulated under Section 313 and Section 304/CERCLA. This product also contains sodium dodecylbenzenesulfonate (CAS # 25155-30-0, <2%) that is regulated under Section 304/CERCLA.									
VI Spill Procedures/Waste Disposal		VII Reactivity Data									
<u>Spill Procedures:</u> Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material. <u>Waste Disposal:</u> Dispose of in accordance with all applicable federal, state, and local regulations.		Stable under normal use and storage conditions.									
VIII Fire and Explosion Data		IX Physical Data									
Not flammable or explosive.		pH ~7.5 Specific gravity ~1.0 Solubility in water Appreciable Viscosity ~500 cP									

1. Identification

Product identifier	ASSURANCE HD SPRAY & WIPE CLEANER	
Other means of identification		
SDS number	533N-08A	
Product code	HIL00801	
Recommended use	Multipurpose Spray and Wipe	
Recommended restrictions	DO NOT USE ON GLASS	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Manufacturer		
Company name	HILLYARD INDUSTRIES	
Address	302 North Fourth St. St. Joseph, MO 64501	
Contact person	Regulatory Affairs	
Telephone number	(816) 233-1321 (Ext. 8285)	
Fax	(816) 383-8485	
E-mail	regulatoryaffairs@hillyard.com	
Emergency telephone #	(800) 424-9300	
	(Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)	

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Causes severe skin burns and eye damage. Causes serious eye damage.
Precautionary statement	
Prevention	Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.
Storage	Store locked up.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Silicic acid, Sodium Salt		6834-92-0	3 - < 5
Sodium Carbonate, Anhydrous		497-19-8	3 - < 5
Q3 Videt			2.6
Other components below reportable levels			80 - < 90

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Chemical safety goggles when working with concentrate.

Skin protection

Hand protection

Use protective gloves when dealing with the concentrate.

Other

Not normally needed.

Respiratory protection

Not normally required with adequate ventilation.
If ventilation is insufficient, suitable respiratory protection must be provided.

Thermal hazards

None known.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Clear, orange liquid

Physical state

Liquid.

Form

Liquid.

Color

Orange.

Odor

Citrus odor

Odor threshold

Not available

pH

12 - 14

Melting point/freezing point

Not available

Initial boiling point and boiling range

212 °F (100 °C)

Flash point

> 212.0 °F (> 100.0 °C) Tag Closed Cup None to boiling

Evaporation rate

< 1 (ethyl ether = 1)

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

17.7 mm Hg

Vapor density

0.6 Air =1

Relative density

1.088 at 77°F

Solubility(ies)

Solubility (water)

100 % Complete

Partition coefficient (n-octanol/water)

Not available

Auto-ignition temperature

Not available

Decomposition temperature

Not available

Viscosity

Not available

Other information

Density	9.06 lb/gal
Percent volatile	86.5 - 88.5 %
VOC (Weight %)	0 %

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Acids. Oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information**Information on likely routes of exposure**

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
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Information on toxicological effects**Acute toxicity**

Product	Species	Test Results
ASSURANCE HD SPRAY & WIPE CLEANER		
Acute		
Inhalation		
LC50	Guinea pig	20 mg/l, 2 Hours estimated
	Mouse	10350 mg/l, 4 Hours estimated
		30 mg/l, 2 Hours estimated
	Rat	20500 mg/l, 0.5 Hours estimated
		12000 mg/l, 4 Hours estimated
		57.5 mg/l, 2 Hours estimated
Oral		
LD50	Mouse	62310.875 mg/kg estimated
	Rat	26416.5605 mg/kg estimated
Components	Species	Test Results
Silicic acid, Sodium Salt (CAS 6834-92-0)		
Acute		
Oral		
LD50	Mouse	2400 mg/kg
	Rat	1280 mg/kg
Sodium Carbonate, Anhydrous (CAS 497-19-8)		
Acute		
Inhalation		
LC50	Guinea pig	0.8 mg/l, 2 Hours
	Mouse	1.2 mg/l, 2 Hours
	Rat	2.3 mg/l, 2 Hours

Components	Species	Test Results
Oral LD50	Rat	4090 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
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Product	Species		Test Results
ASSURANCE HD SPRAY & WIPE CLEANER			
Aquatic			
Crustacea	EC50	Daphnia	3870.2993 mg/l, 48 hours estimated
Acute			
Fish	LC50	Fish	2424 mg/l, 96 hours estimated

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not contaminate ponds, waterways or ditches with chemical or used container. Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Waste from normal product use may be sewered to a public owned treatment works (POTW) in compliance with applicable Federal, State, and local pretreatment requirements.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning.

14. Transport information

DOT

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes

Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 03-05-2015

Version # 01

HMIS® ratings

Health: 3
Flammability: 0
Physical hazard: 0

Disclaimer

No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS HCS 2012

Trade name: Arsenal Bowl Cleaner

1 Identification of the substance/mixture and of the company/undertaking

• **1.1 Product identifier**

• **Trade name:** Arsenal Bowl Cleaner HIL00830 ST-792

• **Article number:** BP20

• **1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

• **Application of the substance / the preparation**

Toilet cleaner

Cleaning agent/ Cleaner

Product dilution information: 1.0 wt. oz. (28 g) per bowl.

• **1.3 Details of the supplier of the Safety Data Sheet**

Hillyard Industries
302 North 4th Street
St. Joseph, MO 64501
Telephone no.: 816-233-1321
Website: www.hillyard.com


• **1.4 Emergency telephone number:**

Chem Trec
800-424-9300


2 Hazards identification

• **2.1 Classification of the substance or mixture**

• **Classification according to Regulation (EC) No 1272/2008**

Product as SOLD	Product at USE DILUTION
 GHS07 Eye Irrit. 2A H319 Causes serious eye irritation.	Not classified. Not classified.

• **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

 Xi; Irritant R36: Irritating to eyes	Not classified.
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• **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.	The mixture does not meet the criteria for classification.
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• **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

• **Additional information:** May form combustible dust concentrations in air.


The mixture does not meet the criteria for classification.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS HCS 2012

Trade name: Arsenal Bowl Cleaner





(Contd. from page 1)

• 2.2 Label elements	
• Labeling according to Regulation (EC) No 1272/2008	
Product as SOLD	Product at USE DILUTION
The product is classified and labeled according to the CLP regulation.	The mixture does not meet the criteria for classification.
• Hazard pictograms	
 GHS07	None
• Signal word Warning	None
• Hazard-determining components of labelling:	
citric acid Sodium Carbonate	Not applicable.
• Hazard statements	
H319 Causes serious eye irritation..	Avoid contact with eyes.
• Precautionary statements	
P280 Wear eye protection. P264 Wash hands thoroughly after handling. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention.	
• Additional information: May form combustible dust concentrations in air.	No known hazards

3 Composition/information on ingredients

• 3.2 Mixtures

• Description: Mixture of substances listed below with nonhazardous additions.

• Dangerous components:		
CAS: 77-92-9 EINECS: 201-069-1	citric acid  Xi R36 -----  Eye Irrit. 2A, H319	20-30%
CAS: 497-19-8 EINECS: 207-838-8 Index number: 011-005-00-2	Sodium Carbonate  Xi R36 -----  Eye Irrit. 2A, H319	10-25%



(Contd. on page 3)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS HCS 2012

Trade name: Arsenal Bowl Cleaner

(Contd. from page 2)

CAS: 68439-46-3 NLP: 500-446-0	alcohols, C9-11, ethoxylated  Xi R36/38  Skin Irrit. 2, H315; Eye Irrit. 2A, H319	<3%
CAS: 112926-00-8	Precipitated silica (Silica-Amorphous) substance with a Community workplace exposure limit	<1%

• **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

• 4.1 Description of first aid measures

Product as SOLD	Product at USE DILUTION
• General information: No special measures required.	No special measures required.
• After inhalation: Supply fresh air; consult doctor in case of complaints.	No special measures required. Treat symptomatically.
• After skin contact: Brush off loose particles from skin. Immediately rinse with water. If skin irritation continues, consult a doctor.	No known effect after skin contact. Rinse with water for a few minutes.
• After eye contact: Remove contact lenses if worn. Rinse opened eye for several minutes under running water. Then consult a doctor.	No known effect after eye contact. Rinse with water for a few minutes. If irritation persists, get medical attention.
• After swallowing: Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately.	Get medical attention if symptoms occur.
• 4.2 Most important symptoms and effects, both acute and delayed Irritant to eyes.	No known effect after eye contact.
• Hazards No further relevant information available.	No known effects.
• 4.3 Indication of any immediate medical attention and special treatment needed	
No further relevant information available.	No further relevant information available.

5 Fire-fighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** None.
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
May form combustible dust concentrations in air.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information** No further relevant information available.

(Contd. on page 4)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS HCS 2012

Trade name: Arsenal Bowl Cleaner

(Contd. from page 3)

6 Accidental release measures

• 6.1 Personal precautions, protective equipment and emergency procedures

Product as SOLD	Product at USE DILUTION
Use respiratory protective device against the effects of fumes/dust/aerosol. Ensure adequate ventilation Wear protective equipment. Keep unprotected persons away. Product forms slippery surface when combined with water.	Use personal protective equipment as required.

• 6.2 Environmental precautions:

No special measures required.	Avoid contact of large amounts of spilled material and run off with soil and surface waterways.
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• 6.3 Methods and material for containment and cleaning up:

Pick up mechanically. Send for recovery or disposal in suitable receptacles. Clean the affected area carefully; suitable cleaners are: Warm water	Large Spills: Flush area with water. Prevent entry into waterways. Small Spills: Wipe up with absorbent material.
--	--

• 6.4 Reference to other sections

See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.	See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.
--	--

7 Handling and storage

• 7.1 Precautions for safe handling

Product as SOLD	Product at USE DILUTION
Prevent formation of dust. Any unavoidable deposit of dust must be regularly removed.	No special measures required.

• Information about fire - and explosion protection:

Dust can combine with air to form an explosive mixture.	No special measures required.
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• 7.2 Conditions for safe storage, including any incompatibilities

• Storage:

• Requirements to be met by storerooms and receptacles:

Avoid storage near extreme heat, ignition sources or open flame. Protect from humidity and water.	Keep out of reach of children.
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• Information about storage in one common storage facility:

Store away from foodstuffs. Do not store together with alkalis (caustic solutions). Store away from oxidizing agents.	No storage precautions necessary.
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(Contd. on page 5)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS HCS 2012


Trade name: Arsenal Bowl Cleaner

(Contd. from page 4)

Product as SOLD	Product at USE DILUTION
• Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles. This product is hygroscopic. Protect from humidity and water. Protect from freezing.	
	No storage precautions necessary.
• 7.3 Specific end use(s) No further relevant information available.	

8 Exposure controls/personal protection

• **Additional information about design of technical facilities:** No further data; see item 7.

Product as SOLD	Product at USE DILUTION
• 8.1 Control parameters	
• Ingredients with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace. • DNELs No further relevant information available. • PNECs No further relevant information available. • Additional information: The lists valid during the making were used as basis.	
• 8.2 Exposure controls	
• Personal protective equipment:	
• General protective and hygienic measures: The usual precautionary measures are to be adhered to when handling chemicals. Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.	
	Not required under normal conditions of use.
• Respiratory protection: Not required under normal conditions of use. For spills, respiratory protection may be advisable. Use suitable respiratory protective device when high concentrations are present.	
	Not required under normal conditions of use.
• Protection of hands: No protective equipment is needed under normal conditions.	
	No protective equipment is needed under normal conditions.
• Eye protection:  Safety glasses	
	No protective equipment is needed under normal conditions.
• Body protection: Not required under normal conditions of use. Protection may be required for spills.	
	No protective equipment is needed under normal conditions.

(Contd. on page 6)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS HCS 2012

Trade name: Arsenal Bowl Cleaner

(Contd. from page 5)

Product as SOLD	Product at USE DILUTION
• Limitation and supervision of exposure into the environment	
No further relevant information available.	No further relevant information available.
• Risk management measures	
See Section 7 for additional information. No further relevant information available.	See Section 7 for additional information. No further relevant information available.

9 Physical and chemical properties

	Product as SOLD	Product at USE DILUTION
• 9.1 Information on basic physical and chemical properties		
• General Information		
• Appearance:		
Form:	Powder	Liquid
Color:	Blue	Blue
Odor:	Floral	Floral
Odor threshold:	Not determined.	Not determined.
• pH-value at 20 °C:	Not applicable.	7.2 ± 0.5
• Change in condition		
Melting point/Melting range:	Undetermined.	Not applicable.
Boiling point/Boiling range:	Undetermined.	100° C / 212° F
• Flash point:	>212 °F / >100 °C	Not determined.
• Flammability (solid, gaseous):	Not determined.	Not applicable.
• Ignition temperature:	Not determined.	Not applicable.
• Decomposition temperature:	Not determined.	Not determined.
• Self-igniting:	Product is not self-igniting.	Product is not self-igniting.
• Danger of explosion:	Product does not present an explosion hazard.	Product does not present an explosion hazard.
• Explosion limits:		
Lower:	Not determined.	Not determined.
Upper:	Not determined.	Not determined.
• Vapor pressure at 20 °C:	Not applicable.	Not determined.
• Density at 20 °C:	1.1 g/cm ³	1.00 g/cm ³
• Relative density	Not determined.	Not determined.
• Vapor density	Not applicable.	Not applicable.
• Evaporation rate	Not applicable.	Not applicable.
• Solubility in / Miscibility with water:	Soluble.	Complete
• Partition coefficient (n-octanol/water):	Not determined.	Not determined.
• Viscosity:		
Dynamic:	Not applicable.	Not determined.
Kinematic:	Not applicable.	Not determined.
• 9.2 Other information	No further relevant information available.	No further relevant information available.

(Contd. on page 7)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS HCS 2012

Trade name: Arsenal Bowl Cleaner

(Contd. from page 6)

10 Stability and reactivity

- **10.1 Reactivity** Not determined.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Toxic fumes may be released if heated above the decomposition point.
Reacts with strong acids and alkali.
Reacts with certain metals.
As the product is supplied it is not capable of dust explosion; however enrichment with fine dust causes risk of dust explosion.
- **10.4 Conditions to avoid** Store away from oxidizing agents.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

11 Toxicological information

• 11.1 Information on toxicological effects		
Product as SOLD		Product at USE DILUTION
• Acute toxicity: Calculated oral toxicity LD50: 6,730 mg/kg (Rat)		Non-toxic at use-dilution.
• LD/LC50 values relevant for classification:		• LD/LC50 values relevant for classification: No known significant effects or critical hazards.
77-92-9 citric acid		
Oral	LD50	
• Primary irritant effect:		
• on the skin: Slight irritant effect on skin and mucous membranes.		No adverse effects due to skin contact are expected.
• on the eye: Irritating effect.		Direct contact with eyes may cause temporary irritation.
• Sensitization: No sensitizing effects known.		No sensitizing effects known.
• Additional toxicological information:		
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:		
Irritant		Not classified.

12 Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** The product contains materials that are harmful to the environment.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:**
Harmful to fish

(Contd. on page 8)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS HCS 2012

Trade name: Arsenal Bowl Cleaner

(Contd. from page 7)

- **Additional ecological information:**
- **General notes:**
 Water Hazard Class (Self-classification) in the concentrate.
 Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
 Harmful to aquatic organisms.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

13 Disposal considerations

• 13.1 Waste treatment methods

Product as SOLD	Product at USE DILUTION
• Recommendation Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements. Dilute concentrate with water and neutralize afterwards with suitable alkali material (sodium hydroxide solution, lime). The formed neutral salts are relatively environment-friendly. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.	
• Uncleaned packaging: • Recommendation: Disposal must be made according to official regulations. • Recommended cleansing agents: Water, if necessary together with cleansing agents.	
	Diluted product can be flushed to sanitary sewer. Discard empty container in trash.

14 Transport information

Product as SOLD	
• 14.1 UN-Number • DOT, ADR, ADN, IMDG, IATA	N/A
• 14.2 UN proper shipping name • DOT, ADR, ADN, IMDG, IATA	Cleaning Compounds, NOI, powder.
• 14.3 Transport hazard class(es) • DOT, ADR, ADN, IMDG, IATA • Class	N/A
• 14.4 Packing group • DOT, ADR, IMDG, IATA	N/A

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Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS HCS 2012

Trade name: Arsenal Bowl Cleaner

(Contd. from page 8)

Product as SOLD	
• 14.5 Environmental hazards:	
• Marine pollutant:	No
• 14.6 Special precautions for user	Not applicable.
• 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
• UN "Model Regulation":	Cleaning Compounds, NOI, powder.
Product at USE DILUTION Not intended for transport.	

15 Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- United States (USA)
- SARA

Product as SOLD	Product at USE DILUTION
• Section 355 (extremely hazardous substances):	
None of the ingredients is listed.	Not applicable.
• Section 313 (Specific toxic chemical listings):	
None of the ingredients is listed.	None of the ingredients is listed.
• TSCA (Toxic Substances Control Act):	
All ingredients are listed.	All ingredients are listed.
• Proposition 65 (California):	
• Chemicals known to cause cancer:	
None of the ingredients is listed.	None of the ingredients is listed.
• Chemicals known to cause reproductive toxicity for females:	
None of the ingredients is listed.	None of the ingredients is listed.
• Chemicals known to cause reproductive toxicity for males:	
None of the ingredients is listed.	None of the ingredients is listed.
• Chemicals known to cause developmental toxicity:	
None of the ingredients is listed.	None of the ingredients is listed.
• Carcinogenic Categories	
• EPA (Environmental Protection Agency)	
None of the ingredients is listed.	None of the ingredients is listed.
• IARC (International Agency for Research on Cancer)	
112926-00-8	Precipitated silica (Silica-Amorphous)
3	Not applicable.

(Contd. on page 10)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS HCS 2012

Trade name: Arsenal Bowl Cleaner

(Contd. from page 9)

• TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

None of the ingredients is listed.

• NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

None of the ingredients is listed.

• OSHA-Ca (Occupational Safety & Health Administration)

All ingredients are listed.

All ingredients are listed.

• Canada
• Canadian Domestic Substances List (DSL)

All ingredients are listed.

All ingredients are listed.

• Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

None of the ingredients is listed.

• Canadian Ingredient Disclosure list (limit 1%)

77-92-9

Citric Acid

Not applicable.

497-19-8

Sodium Carbonate

Not applicable.

• 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• Relevant phrases

H315 Causes skin irritation.

H319 Causes serious eye irritation.

R36 Irritating to eyes.

R38 Irritating to skin.

Product as SOLD
Product at USE DILUTION
• Hazardous Material Information System (U.S.A.)

Health

2

Flammability

0

Physical hazards

0

Health

0

Flammability

0

Physical hazards

0

4=Very High; 3=High; 2=Moderate; 1=Slight; 0=Insignificant

4=Very High; 3=High; 2=Moderate; 1=Slight; 0=Insignificant



(Contd. on page 11)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS HCS 2012

Trade name: Arsenal Bowl Cleaner

(Contd. from page 10)

Product as SOLD	Product at USE DILUTION
• NFPA ratings (scale 0 - 4)	
 <p>Health = 2 Fire = 0 Reactivity = 0</p>	 <p>Health = 0 Fire = 0 Reactivity = 0</p>

• **SDS File Name:** ARSENAL BOWL CLEANER BP20 SDS

• **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labeling of Chemicals
 ACGIH: American Conference of Governmental Industrial Hygienists
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 WHMIS: Workplace Hazardous Materials Information System (Canada)
 DNEL: Derived No-Effect Level (REACH)
 PNEC: Predicted No-Effect Concentration (REACH)
 LD50: Lethal dose, 50 percent

• **Sources**

SDS Prepared by:
 ChemTel Inc.
 1305 North Florida Avenue
 Tampa, Florida USA 33602-2902
 Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
 Website: www.chemtelinc.com
Revision: 05/29/2015

MATERIAL SAFETY DATA SHEET**NFPA RATING:** Health = 1 Flammability = 0 Reactivity = 0**HMIS RATING:** Health = /1 Flammability = 0 Reactivity = 0**SECTION I – IDENTITY AND MANUFACTURER'S INFORMATION (1028C)****Manufacturer's Name:** HILLYARD INDUSTRIES**Product Name:** ARSENAL GREEN SELECT
DEGREASER CLEANER**Address:** 302 North Fourth Street
St. Joseph, MO 64501**Date Prepared:** December 7, 2006**Prepared by:** Regulatory Affairs Department**Emergency Telephone No.:** (800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)**Other information calls:** (816) 233-1321 (Ext. 8285)<http://www.hillyard.com>**SECTION II – INGREDIENTS/IDENTITY INFORMATION****Components****(Specific Chemical Identity:**

Common Name(s)	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Water	7732-18-5	none	none	N/A	---
Alkyl polyglucoside mixture	68515-73-1 & 110615-47-9	not established	not established	N/A	---
Sodium Citrate	68-04-2	not established	not established	N/A	

VOC Concentrate = 46.8 g/l.; VOC (concentrate) 0.5%; VOC (Min. dilution) 0.04%

SECTION III – PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: 208°F	Specific Gravity (H₂O = 1): 25°C = 1.05 & 39°C = 1.05
Vapor Pressure (mm Hg.): 17.5	Percent Volatile by Volume (%): 88.97
Vapor Density (AIR = 1): 0.6	Evaporation Rate (ethyl ether = 1): slower than 1
Solubility in Water: complete	Appearance and Odor: yellow liquid; citrus odor
pH (concentrate) = 7.1	

SECTION IV – FIRE AND EXPLOSION HAZARD DATA**Flash point:** None to 200°F (T.C.C.) **Flammable Limits:** LEL = N/A UEL = N/A**Extinguishing Media:** Water spray, Carbon Dioxide, Dry Chemical, Foam**Special Fire Fighting Procedures:** Wear a self-contained breathing apparatus, goggles and nitrile or rubber gloves with concentrate.**Unusual Fire and Explosion Hazards:** None known to manufacturer.**SECTION V – PHYSICAL HAZARDS****Stability:** Stable**Conditions to Avoid:** None known to Hillyard**Incompatibility (Materials to Avoid):** Strong oxidizing materials, strong acids and strong bases.**Hazardous Decomposition Products or Byproducts:** As with any organic material, combustion will produce carbon dioxide and probably carbon monoxide.**Hazardous Polymerization:** Will not occur **Conditions to Avoid:** None known**SECTION VI – HEALTH HAZARD DATA****Routes of entry:** Inhalation? no Eye? yes Skin? no Ingestion? no**HEALTH HAZARDS (1. Acute and 2. Chronic)**

1. When tested per the Federal Hazardous Substance Act method 16 CFR 1500 concentrated product was not a skin irritant; per the FHSA method 16 CFR 1500 the concentrated product was an eye irritant. The concentrated product was not acutely toxic (oral) to rats at 5 gm/kg. per upper limit test. Acute inhalation = 1 hour upper limit test was not able to test because product foamed too much to dose by a mist.

2. None known to Hillyard.

SECTION VI – HEALTH HAZARD DATA continued

Chemical listed as Carcinogen or Potential Carcinogen:

National Toxicology Program = No **I.A.R.C. Monographs =** No **OSHA =** No

This product has no carcinogens listed by IARC, NTP, NIOSH, or ACGIH as of this date, greater than or equal to 0.1%.

Signs and Symptoms of Exposure: Overexposure may cause drowsiness, headache and uncoordination.

Medical Conditions Generally Aggravated by Exposure: None known by manufacturer.

Emergency and First Aid Procedures: Eye and skin contact: Flush with plenty of water for 15 minutes; remove contact lenses and flush eyes again with water. If eye irritation persists get medical attention. If swallowed: Call a physician, hospital emergency room or poison control center immediately; induce vomiting.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: Absorb large spills with floor dry material. Small spills: Flush with water and pick up with mop.

Waste Disposal Method: Dispose of in accordance with state and local regulations.

Precautions To Be Taken In Handling And Storing: Keep container closed when not in use.

Other Precautions: Do not take internally.

SECTION VIII – CONTROL MEASURES

Respiratory Protection (Specify Type): None required.

Ventilation: Follow good engineering practices for public areas.

Local Exhaust = N/A **Mechanical (General) =** Recommended **Special =** N/A **Other =** N/A

Protective Gloves: N/A **Eye Protection:** Goggles only where splashing of concentrate is a concern.

Other Protective Clothing or Equipment: N/A

Work / Hygienic Practices: Wash thoroughly after handling.

SECTION IX – TRANSPORTATION INFORMATION

Applicable regulations: CFR = No IMCO = No IATA = No.

Proper shipping name for air, foreign water for highway: Cleaning compound

UN No.: not applicable for highway **Limited Qty.:** not applicable **Hazard class:** not applicable for highway

Labels required: not required for highway **DOT Exception:** not applicable

EPA Hazardous waste characteristics:

Ignitability = Not applicable; **Corrosivity =** Not applicable; **Reactivity =** Not applicable.

DISCLAIMER OF WARRANTIES

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY NATURE ARE MADE WITH RESPECT TO THE PRODUCT(S) OR INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET.

The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate.

THE BUYER OR USER ASSUMES ALL RISKS ASSOCIATED WITH THE USE, MISUSE OR DISPOSAL OF THIS PRODUCT. THE BUYER OR USER IS RESPONSIBLE TO COMPLY WITH ALL FEDERAL, STATE OR LOCAL REGULATIONS CONCERNING THE USE, MISUSE OR DISPOSAL OF THESE PRODUCTS.

1. Identification

Product identifier	SUPROX
Other means of identification	
SDS number	548N-84A
Product code	HIL00833
Recommended use	General Cleaner
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Manufacturer	
Company name	HILLYARD INDUSTRIES
Address	302 North Fourth St. St. Joseph, MO 64501
Contact person	Regulatory Affairs
Telephone number	(816) 233-1321 (Ext. 8285)
Fax	(816) 383-8485
E-mail	regulatoryaffairs@hillyard.com
Emergency telephone #	(800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 1
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Causes serious eye damage. May be harmful if swallowed. May cause respiratory irritation. May cause skin irritation.
Precautionary statement	
Prevention	Do not get in eyes, on skin, and clothing. Do not ingest. If prolonged or repeated contact with concentrate is possible, wear rubber or other impervious gloves and splash goggles. Use only as directed: Improper dilution can lead to adverse health effects.
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If on skin: Wash with plenty of water. Get medical attention if irritation develops and persists. If inhaled: Remove person to fresh air and keep comfortable for breathing.
Storage	Store away from incompatible materials.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law. Waste from normal use may be sewered to a public-owned treatment works in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Q3 Videt			9
Hydrogen Peroxide		7722-84-1	5 - < 10
Fragrance			< 0.3
Other components below reportable levels			80 - < 90

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth thoroughly. If swallowed, do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not get this material in contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	PEL	1.4 mg/m3
		1 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	TWA	1 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	TWA	1.4 mg/m3
		1 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection

Do not get in eyes. Chemical safety goggles when working with concentrate.

Skin protection

Hand protection

Wear protective gloves. Neoprene or butyl rubber gloves are recommended.

Other

Avoid contact with the skin. Wear suitable protective clothing and gloves. Wear suitable protective clothing.

Respiratory protection

Not normally required with adequate ventilation.

Thermal hazards

None known.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Clear, yellow liquid (yellow color fades with age)

Physical state

Liquid.

Form

Liquid.

Color

Colourless to light yellow.

Odor

Citrus odor

Odor threshold

Not Available

pH

3.5 - 4.6
6.5 - 7.5 Diluted 1:25

Melting point/freezing point

Not Available

Initial boiling point and boiling range

206 °F (96.67 °C)

Flash point

> 200.0 °F (> 93.3 °C) Tag Closed Cup

Evaporation rate

< 1 Ethyl ether = 1

Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17.6 mm Hg
Vapor density	0.62 Air=1
Relative density	1.027 at 77°F
Solubility(ies)	
Solubility (water)	Complete
Partition coefficient (n-octanol/water)	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Viscosity	Not Available
Other information	
Density	8.55 lb/gal
Percent volatile	92 - 94 %
Specific gravity	1.03
VOC (Weight %)	0 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Metals. Strong reducing agents. Alkalies. Combustible material. Heavy Metal Salts
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye damage.
Ingestion	Expected to be a low ingestion hazard.
SUPROX	5000 mg/kg

Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
---	--

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
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Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
------------------------	---

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrogen Peroxide (CAS 7722-84-1)	3 Not classifiable as to carcinogenicity to humans.
-----------------------------------	---

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Prolonged inhalation may be harmful.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Waste from normal product use may be sewered to a public owned treatment works (POTW) in compliance with applicable Federal, State, and local pretreatment requirements.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning.

14. Transport information

DOT

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Hydrogen Peroxide (CAS 7722-84-1) 1000 LBS

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
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Hydrogen Peroxide	7722-84-1	1000	1000 lbs		
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SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Hydrogen Peroxide (CAS 7722-84-1)

US. New Jersey Worker and Community Right-to-Know Act

Hydrogen Peroxide (CAS 7722-84-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Hydrogen Peroxide (CAS 7722-84-1)

US. Rhode Island RTK

Hydrogen Peroxide (CAS 7722-84-1)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-24-2015

Version # 01

Further information This product meets Green Seal™ Standard GS-37 based on effective performance, concentrated volume, minimized/recycled packaging and protective limits on: VOCs and human & environmental toxicity. Acute toxicity, skin and eye damage met requirements at the as-used dilution, as specified for closed dilution systems. GreenSeal.org.

HMIS® ratings

Health: 3
Flammability: 0
Physical hazard: 1

Disclaimer

No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

1. Identification

Product identifier	SUPROX-D
Other means of identification	
SDS number	554N-27C
Product code	HIL00832
Product registration number	1839-224-1658
Recommended use	Disinfectant/Cleaner
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Manufacturer Company name	HILLYARD INDUSTRIES
Address	302 North Fourth St. St. Joseph, MO 64501
Contact person	Regulatory Affairs
Telephone number	(816) 233-1321 (Ext. 8285)
Fax	(816) 383-8485
E-mail	regulatoryaffairs@hillyard.com
Emergency telephone #	(800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 4
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Danger
Hazard statement	Combustible liquid. Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not breathe mist or vapor. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.
Storage	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Hydrogen Peroxide		7722-84-1	5 - < 10
Alkyl dimethyl benzyl ammonium chloride (C12-16)		68424-85-1	1 - < 3
Other components below reportable levels			90 - 100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Combustible liquid.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Should not be released into the environment.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS). DO NOT CONTAMINATE WATER, FOOD, OR FEED BY STORAGE OR DISPOSAL. CONTAINER STORAGE – Keep product under locked storage, inaccessible to children.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	PEL	1.4 mg/m3
		1 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	TWA	1 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	TWA	1.4 mg/m3
		1 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Chemical splash goggles where there is a potential for eye contact.
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Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	Not normally required with adequate ventilation. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	None known.
General hygiene considerations	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear, colorless liquid
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Non-objectionable, No Fragrance
Odor threshold	Not available
pH	1.7 - 2.7 concentrate
Melting point/freezing point	Not applicable / Not available
Initial boiling point and boiling range	206 °F (96.67 °C) Corr.
Flash point	> 160.0 °F (> 71.1 °C) Tag Closed Cup
Evaporation rate	< 1 Ethyl ether = 1
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17.65 mm Hg
Vapor density	0.632 Air=1
Relative density	1.02 at 77°F
Solubility(ies)	
Solubility (water)	100 % Complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	8.49 lb/gal
Percent volatile	93 - 94 %
VOC (Weight %)	0.72 %

10. Stability and reactivity

Reactivity	Reacts violently with strong alkaline substances. This product may react with reducing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Bases. Reducing agents.

Hazardous decomposition products

No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Not available.

Product	Species	Test Results
SUPROX-D		
Acute		
<i>Inhalation</i>		
LC50	Mouse	4913.6953 mg/l, 4 Hours estimated
<i>Oral</i>		
LD50	Guinea pig	705.5563 g/kg estimated
	Mouse	26428.5332 mg/kg estimated
	Rat	8706.8926 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrogen Peroxide (CAS 7722-84-1) 3 Not classifiable as to carcinogenicity to humans.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard Prolonged inhalation may be harmful.

Chronic effects May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects. Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Product	Species	Test Results
SUPROX-D		
Aquatic		
Fish	LC50	Fish
		67.1969 mg/l, 96 hours estimated

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
	CONTAINER DISPOSAL – Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container promptly after emptying. Triple rinse as follows: Fill container ¼ full with water and recap. Agitate vigorously. Follow Pesticide Disposal instructions for rinsate disposal. Drain for 10 seconds after the flow begins to drip. Repeat procedure two more times. Then offer for recycling or reconditioning. If not available, puncture and dispose in a sanitary landfill.

14. Transport information

DOT	Not regulated as dangerous goods.
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15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed.
SARA 304 Emergency release notification	
	Hydrogen Peroxide (CAS 7722-84-1) 1000 LBS
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.
Superfund Amendments and Reauthorization Act of 1986 (SARA)	
Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
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Hydrogen Peroxide	7722-84-1	1000	1000 lbs		
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SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

FIFRA Information

FIFRA: This product is a U.S. EPA Registered pesticide, EPA Reg. No. 1839-224-1658, and is subject to certain labeling requirements under Federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide products. The hazard information required on the pesticide label is reproduced here.

PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS.
DANGER Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed or inhaled. Do not get in eyes, on skin or on clothing. Wear eye protection (goggles, safety glasses with side shields, or face shield). Wear coveralls worn over long-sleeved shirts and long pants, chemical resistant gloves, socks, and chemical resistant footwear. Avoid contamination of food. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash clothing before reuse.

KEEP OUT OF REACH OF CHILDREN.

DANGER.

FIRST AID: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN Probable mucosal damage may contraindicate the use of gastric lavage.

US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

Hydrogen Peroxide (CAS 7722-84-1)

US. New Jersey Worker and Community Right-to-Know Act

Hydrogen Peroxide (CAS 7722-84-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Hydrogen Peroxide (CAS 7722-84-1)

US. Rhode Island RTK

Hydrogen Peroxide (CAS 7722-84-1)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 04-28-2015

Version # 01

HMIS® ratings Health: 3*
Flammability: 2
Physical hazard: 0

Disclaimer No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

1. Identification

Product identifier	TOP CLEAN
Other means of identification	
SDS number	565N-191A
Product code	HIL00810
Recommended use	General Cleaner
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Manufacturer	
Company name	HILLYARD INDUSTRIES
Address	302 North Fourth St. St. Joseph, MO 64501
Contact person	Regulatory Affairs
Telephone number	(816) 233-1321 (Ext. 8285)
Fax	(816) 383-8485
E-mail	regulatoryaffairs@hillyard.com
Emergency telephone #	(800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	Not classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Caution: Do not get in eyes, on skin, or clothing. Use only with adequate ventilation. Do not breathe spray mist. (Inhalation of fine fog mist can cause irritation of mucous membranes.) Keep container closed when not in use. Wash thoroughly after handling. Use splash goggles. If prolonged or repeated contact is possible, wear rubber or other impervious gloves. Use only as directed: Improper dilution can lead to adverse health effects.
Response	In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. If skin irritation persists get medical attention. If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.
Storage	Store away from incompatible materials.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law. Waste from normal use may be sewered to a public-owned treatment works in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Alcohols, C9-11, ethoxylated		68439-46-3	10 - < 20
Fragrance			< 1
Other components below reportable levels			80 - < 90

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Chemical safety goggles when working with concentrate.
Skin protection	
Hand protection	For prolonged or repeated skin contact use suitable protective gloves.
Other	Not normally needed.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	None known.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear, blue liquid
Physical state	Liquid.
Form	Liquid.
Color	Blue
Odor	Fresh & Clean odor
Odor threshold	Not available
pH	8 - 9 (Concentrate) 7.5 - 8.5 (1:256 Dilution)
Melting point/freezing point	Not available
Initial boiling point and boiling range	207 °F (97.22 °C)
Flash point	> 210.0 °F (> 98.9 °C) Tag Closed Cup
Evaporation rate	< 1 (ethyl ether = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17.59 mm Hg
Vapor density	0.627 Air =1
Relative density	1.016 at 77°F
Solubility(ies)	
Solubility (water)	100 % Complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	8.46 lb/gal
Percent volatile	81 - 83 %
VOC (Weight %)	0 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.
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Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
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Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
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US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
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Specific target organ toxicity - single exposure	Not classified.
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Specific target organ toxicity - repeated exposure	Not classified.
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Aspiration hazard	Not an aspiration hazard.
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12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
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Product	Species		Test Results
TOP CLEAN			
Aquatic			
Crustacea	EC50	Daphnia	> 100 mg/l, 48 hours
Fish	LC50	Fish	> 100 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
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Bioaccumulative potential	No data available.
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Mobility in soil	No data available.
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Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Waste from normal product use may be sewered to a public owned treatment works (POTW) in compliance with applicable Federal, State, and local pretreatment requirements. Dispose of in accordance with local regulations.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning.

14. Transport information

DOT

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 12-18-2014

Version # 01

HMIS® ratings Health: 1
Flammability: 0
Physical hazard: 0

Disclaimer No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

1. Identification

Product identifier WINDO-CLEAN+

Other means of identification

SDS number 565N-26B

Product code HIL00802

Recommended use Window Cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.
St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (816) 233-1321 (Ext. 8285)

Fax (816) 383-8485

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300

(Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards Flammable liquids Category 3

Health hazards Acute toxicity, dermal Category 4

Acute toxicity, inhalation Category 4

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2A

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Flammable liquid and vapor. Harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled.

Precautionary statement

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing. Wear protective gloves/eye protection/face protection.

Response

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage	Store in a well-ventilated place. Keep cool.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Ethylene glycol monobutyl ether		111-76-2	10 - < 20
Isopropyl Alcohol		67-63-0	5 - < 10
Propylene glycol monomethyl ether		107-98-2	5 - < 10
Other components below reportable levels			70 - < 80

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical advice/attention if you feel unwell. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical advice/attention if you feel unwell.
Most important symptoms/effects, acute and delayed	Headache. Irritation of nose and throat. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors and spray mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions**7. Handling and storage****Precautions for safe handling**

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not get in eyes, on skin, or on clothing. Avoid inhalation of vapors and spray mists. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Refrigeration recommended. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Ethylene glycol monobutyl ether (CAS 111-76-2)	PEL	240 mg/m3
Isopropyl Alcohol (CAS 67-63-0)	PEL	50 ppm 980 mg/m3 400 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethylene glycol monobutyl ether (CAS 111-76-2)	TWA	20 ppm
Isopropyl Alcohol (CAS 67-63-0)	STEL	400 ppm
Propylene glycol monomethyl ether (CAS 107-98-2)	TWA	200 ppm
	STEL	100 ppm
	TWA	50 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethylene glycol monobutyl ether (CAS 111-76-2)	TWA	24 mg/m3 5 ppm
Isopropyl Alcohol (CAS 67-63-0)	STEL	1225 mg/m3 500 ppm
	TWA	980 mg/m3 400 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Propylene glycol monomethyl ether (CAS 107-98-2)	STEL	540 mg/m3
	TWA	150 ppm
		360 mg/m3 100 ppm

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Ethylene glycol monobutyl ether (CAS 111-76-2)	200 mg/g	Butoxyacetic acid (BAA), with hydrolysis	Creatinine in urine	*
Isopropyl Alcohol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines**US - California OELs: Skin designation**

Ethylene glycol monobutyl ether (CAS 111-76-2)
Propylene glycol monomethyl ether (CAS 107-98-2)

Can be absorbed through the skin.
Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Ethylene glycol monobutyl ether (CAS 111-76-2)

Skin designation applies.

US - Tennessee OELs: Skin designation

Ethylene glycol monobutyl ether (CAS 111-76-2)

Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Ethylene glycol monobutyl ether (CAS 111-76-2)

Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Ethylene glycol monobutyl ether (CAS 111-76-2)

Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance Clear, dark purple liquid

Physical state Liquid.

Form Liquid.

Color Dark purple

Odor Solvent odor

Odor threshold Not available

pH 6 - 8

Melting point/freezing point	Not available
Initial boiling point and boiling range	184 °F (84.44 °C) corr.
Flash point	> 101.0 °F (> 38.3 °C) Closed Cup
Evaporation rate	< 1 Ethyl ether = 1
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17.5 mm Hg
Vapor density	1.5 Air=1
Relative density	0.98 at 77°F
Solubility(ies)	
Solubility (water)	100 % Complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	8.15 lb/gal
Percent volatile	97 - 97.5 %
VOC (Weight %)	30 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Isocyanates. Chlorine.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Harmful in contact with skin. Causes skin irritation.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

Eye contact Causes serious eye irritation.

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Headache. Irritation of nose and throat. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Harmful if inhaled. Harmful in contact with skin.

Product	Species	Test Results
WINDO-CLEAN+		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2625.6042 mg/kg estimated
<i>Inhalation</i>		
LC50	Mouse	4666.6665 ppm, 7 Hours estimated
	Rat	9560.916 mg/l, 4 Hours estimated
		3000 ppm, 4 Hours estimated
<i>Oral</i>		
LD50	Guinea pig	7.9973 g/kg estimated
	Mouse	7.967 g/kg estimated
	Rabbit	2.0631 g/kg estimated
	Rat	3732.6843 mg/kg estimated
Components	Species	Test Results
Ethylene glycol monobutyl ether (CAS 111-76-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	400 mg/kg
<i>Inhalation</i>		
LC50	Mouse	700 ppm, 7 Hours
	Rat	450 ppm, 4 Hours
<i>Oral</i>		
LD50	Guinea pig	1.2 g/kg
	Mouse	1.2 g/kg
	Rabbit	0.32 g/kg
	Rat	560 mg/kg
Isopropyl Alcohol (CAS 67-63-0)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	12800 mg/kg
<i>Oral</i>		
LD50	Mouse	3600 mg/kg
	Rabbit	5.03 g/kg
	Rat	4.7 g/kg
Propylene glycol monomethyl ether (CAS 107-98-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	13 g/kg
<i>Inhalation</i>		
LC50	Guinea pig	15000 mg/l, 10 Hours
	Rat	54.6 mg/l, 4 Hours
<i>Oral</i>		
LD50	Dog	4.6 g/kg
	Mouse	10.8 g/kg
	Rabbit	5.3 g/kg
	Rat	5.71 g/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Ethylene glycol monobutyl ether (CAS 111-76-2)	3 Not classifiable as to carcinogenicity to humans.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
Not listed.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.
Chronic effects	May be harmful if absorbed through skin. Prolonged inhalation may be harmful. 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
WINDO-CLEAN+		
Aquatic		
Fish	LC50	8313.4756 mg/l, 96 hours estimated
Components		
Ethylene glycol monobutyl ether (CAS 111-76-2)		
Aquatic		
Fish	LC50	Inland silverside (Menidia beryllina) 1250 mg/l, 96 hours
Isopropyl Alcohol (CAS 67-63-0)		
Aquatic		
Fish	LC50	Western mosquitofish (Gambusia affinis) > 1400 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Ethylene glycol monobutyl ether	0.83
Isopropyl Alcohol	0.05

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not contaminate ponds, waterways or ditches with chemical or used container. Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Waste from normal product use may be sewerred to a public owned treatment works (POTW) in compliance with applicable Federal, State, and local pretreatment requirements.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning.

14. Transport information

DOT	Not regulated as dangerous goods.
General information	This material is regulated under IATA and IMDG regulations contact manufacturer for shipping instructions.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
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SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	No
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SARA 313 (TRI reporting)	Not regulated.
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Other federal regulations

Safe Drinking Water Act (SDWA)	Not regulated.
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US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)	Not listed.
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US. Massachusetts RTK - Substance List

Ethylene glycol monobutyl ether (CAS 111-76-2)
Isopropyl Alcohol (CAS 67-63-0)
Propylene glycol monomethyl ether (CAS 107-98-2)

US. New Jersey Worker and Community Right-to-Know Act

Ethylene glycol monobutyl ether (CAS 111-76-2)
Isopropyl Alcohol (CAS 67-63-0)
Propylene glycol monomethyl ether (CAS 107-98-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Ethylene glycol monobutyl ether (CAS 111-76-2)
Isopropyl Alcohol (CAS 67-63-0)
Propylene glycol monomethyl ether (CAS 107-98-2)

US. Rhode Island RTK

Isopropyl Alcohol (CAS 67-63-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	01-29-2015
Version #	01
HMIS® ratings	Health: 2 Flammability: 3 Physical hazard: 0

Disclaimer	HILLYARD cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.
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Material Safety Data Sheet

May be used to comply with

OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration

(Non-Mandatory Form)

Form Approved

OMB No. 1218-0072

IDENTITY (As Used on Label and List) SARGENT ART LIQUID TEMPERA, GOTHIC & ART TIME TEMPERAS	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.
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Section I

Manufacturer's Name Sargent Art, Inc.	Emergency Telephone Number 570-454-3596
Address (Number, Street, City, State, and ZIP Code) 100 E Diamond Avenue Hazleton PA 18201	Telephone Number for Information 570- 454-3596 Date Prepared 11-24-2008 Signature of Preparer (optional)

Section II - Hazard Ingredients/Identity Information

Hazardous Components (Specific Chemical
Identity; Common Name(s))

ALL CP/AP PRODUCTS ARE CERTIFIED	BY A NATIONAL RECOGNIZED AUTHORITY
ON TOXICOLOGY ASSOCIATED WITH	A LEADING UNIVERSITY TO CONTAIN
NO KNOWN TOXIC MATERIALS IN	SUFFICIENT QUANTITIES TO BE
INJURIOUS TO THE HUMAN BODY EVEN	IF INGESTED.

CONFORMS TO ASTM-D 4236.

Section III - Physical/Chemical Characteristics

Boiling Point 550 - 750 deg F	Specific Gravity (H₂O = 1) 0.8 - 1.1
Vapor Pressure (mm Hg.) N/A	Melting Point 125 - 145 def F
Vapor Density (Butyl Acetate = 1) N/A	Evaporation Rate (Butyl Acetate = 1) less than 0.01
Solubility in Water	NEGLIGIBLE
Appearance and Odor	Essentially Odorless

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) N/A	Flammable Limits LEL UEL NONE NONE NONE
Extinguishing Media Special Fire Fighting Procedures	CARBON DIOXIDE WATER, FOAM SELF CONTAINED BREATHING APPARATUS NONE
Unusual Fire and Explosion Hazards	NONE

Section V - Reactivity Data

Stability	Unstable	Conditions to Avoid
	Stable X	None Known
Incompatibility (Materials to Avoid) Strong	Strong oxidizers and acids	
Hazardous Decomposition or Byproducts	Carbon Monoxide	
Hazardous Polymerization May Occur Will Not Occur X	Conditions to Avoid	None Known

may release highly irritating fumes.

Section VI - Health Hazard Data

Route(s) of Entry: Inhalation? NO	Skin? No	Ingestion? Possible - See Below
Health Hazards (Acute and Chronic)		
This product is certified to contain no toxic or injurious to humans or to cause		materials in sufficient quantities to be acute or chronic health problems.
Carcinogenicity: NTP? Does not apply	IARC Monographs? None Regulated? Not Regulated	OSHA
Signs and Symptoms of Exposure	Does not apply	
Medical Conditions Generally Aggravated by Exposure	None Known	
Emergency and First Aid Procedures	If ingested, call physician immediately	

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled	None Known Conforms to state and local regulations.
Waste Disposal Method	In accordance with local regulations.
Precautions to Be taken in Handling and Storing	Store in cool dry area.
Other Precautions	None Known

Section VIII - Control Measures

Respiratory Protection (<i>Specify Type</i>)		Not Required.		
Ventilation	Local Exhaust	Not Required	Special	None Required
Mechanical (General)		Not Required	Other	None Required
Protective Gloves	None Required	Eye Protection Not Required		
Other Protective Clothing or Equipment		Not Required		
Work/Hygienic Practices		Clean, safe work practices		

00623-1064
-1066
-1067

MATERIAL SAFETY DATA SHEET

IDENTITY (AS USED ON LABEL AND LIST)

May be used to comply with OSHA's 29 CFR 1910.1200.
 Note: Blank spaces are not permitted. If any item is not applicable,
 or no information available, the space must be marked appropriately.

DICK BLICK ACRYLIC MODELING PASTE

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

ROCK PAINT DISTRIBUTING CORP.	(608) 868-6873
MANUFACTURER	TELEPHONE NUMBER FOR INFORMATION
365 SUNNYSIDE DR. P.O. BOX 482	(920) 563-8545
ADDRESS	EMERGENCY TELEPHONE NUMBER
MILTON, WI 53563	JULY 2007
	DATE PREPARED

SECTION 2 - MATERIAL IDENTIFICATION AND INFORMATION

OTHER LIMITS

COMPONENTS	CHEMICAL NAME & COMMON NAMES	%	OSHA PEL	ACGIH TLV	RECOMMENDED
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Contains no hazardous substance per OSHA
 29 CFR 1910.1200

Material is a water based product with the AP Seal. Products with the AP Approved Products Seal of the Art and Craft Materials Institute Inc. are certified in a program of toxicological evaluation by a medium expert to contain no material in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems. These products are certified by the Institute to be in accordance with the voluntary chronic hazard labeling standard ASTM D-4236. In addition, there is no physical hazard as defined within 29 CFR Part 1910.1200 (c).

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT -	Range 215-225 F	SPECIFIC GRAVITY (H₂O = 1) -	Range 1.03-1.68
VAPOR PRESSURE (mm Hg & TEMPERATURE) -	N/A	MELTING POINT -	N/A
VAPOR DENSITY (AIR=1) -	lighter than air	EVAPORATION RATE (WATER = 1) -	lower than ether
SOLUBILITY IN WATER -	completely soluble in water	WATER REACTIVE -	N/A
APPEARANCE & ODOR -	various colors and odorless		

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT & METHOD USED	FLAMMABILITY LIMITS IN AIR % BY VOLUME	
N/A	N/A	
EXTINGUISHER MEDIA	LEL	UEL
CO₂, Foam or Water	N/A	N/A
SPECIAL FIRE FIGHTING PROCEDURES		
None known		
UNUSUAL FIRE AND EXPLOSION HAZARDS		
None		

SECTION 5 - REACTIVITY HAZARD DATA

ACRYLIC MODELING PASTE Page 2 of 2

STABILITY CONDITIONS TO AVOID

> STABLE

None

UNSTABLE

INCOMPATIBILITY (MATERIALS TO AVOID)

N/A

HAZARDOUS DECOMPOSITION PRODUCTS

N/A

HAZARDOUS POLYMERIZATION**CONDITIONS TO AVOID**

MAY OCCUR

N/A

None known

WILL NOT OCCUR

SECTION 6 - HEALTH HAZARD DATA**PRIMARY ROUTES OF EN1**

N/A

CARCINOGEN LISTED IN

N/A

INHALATION

INGESTION

NTP

OSHA

SKIN ABSORPTION

NOT HAZARDOUS

IARC MONOGRAPH

> NOT LISTED

HEALTH HAZARDS

ACUTE

Refer to Section 2

CHRONIC

SIGNS AND SYMPTOMS

Not known

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Not known

EMERGENCY FIRST AID PROCEDURES - Consult a Physician immediately.**SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES****STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED**

Usual Clean Up Procedure

WASTE DISPOSAL METHODS

Dispose of in accordance with Federal and Local State Regulations

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Store at room temperature.

OTHER PRECAUTIONS AND/OR SPECIAL HAZARDS

Not known

SECTION 8 - CONTROL AND PROTECTIVE MEASURES**RESPIRATORY PROTECTION (SPECIFY TYPE)**

None required

VENTILATION TO BE USED

LOCAL EXHAUSE

MECHANICAL (GENERAL)

SPECIAL

None required

OTHER (SPECIFY)

PROTECTIVE GLOVES

N/A

EYE PROTECTION

N/A

OTHER PROTECTIVE CLOTHING AND EQUIPMENT

N/A

HYGIENIC WORK PRACTICES

N/A

MATERIAL SAFETY DATA SHEET

IDENTITY (AS USED ON LABEL AND LIST)

DICK BLICK ACRYLIC COLORS**00624- all codes except:****0129 -3093****1009 -3094****1029 -3095**

May be used to comply with OSHA's 29 CFR 1910.1200

Note: Blank spaces are not permitted. If any item is not applicable,

If no information available, the space must be marked appropriately.

-3096**-3103****-3104****-3105****-3106****-4073****-4074****-4075****-4076****4093****4094****4095****4096****-4533****-4534****-4535****-4536****-7083****-7084****-7085****-7086****SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION****ROCK PAINT DISTRIBUTING CORP.****(608) 868-8673**

MANUFACTURER

TELEPHONE NUMBER FOR INFORMATION

365 SUNNYSIDE DR. P.O. BOX 482**(608) 868-8673**

ADDRESS

EMERGENCY TELEPHONE NUMBER

MILTON, WI 53563**DECEMBER 2006**

DATE PREPARED

SECTION 2 - MATERIAL IDENTIFICATION AND INFORMATION

OTHER LIMITS

COMPONENTS: CHEMICAL NAME & COMMON NAMES

%

OSHA PEL

ACGIH TLV

RECOMMENDED

Contains no hazardous substance per OSHA
29 CFR 1910.1200

Material is a water based product with the AP Seal. Products with the AP Approved Products Seal of the Art and Craft Materials Institute Inc. are certified in a program of toxicological evaluation by a medium expert to contain no material in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems. These products are certified by the Institute to be in accordance with the voluntary chronic hazard labeling standard ASTM D-4236. In addition, there is no physical hazard as defined within 29 CFR Part 1910.1200 (c).

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT -	Range 215-225 F	SPECIFIC GRAVITY (H ₂ O = 1) -	Range 1.03-1.68
VAPOR PRESSURE (mm Hg & TEMPERATURE) -	N/A	MELTING POINT -	N/A
VAPOR DENSITY (AIR=1) -	lighter than air	EVAPORATION RATE (WATER = 1) -	Slower than ether
SOLUBILITY IN WATER -	completely soluble in water	WATER REACTIVE -	N/A
APPEARANCE & ODOR -	various colors and odorless		

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT & METHOD USED	FLAMMABILITY LIMITS IN AIR % BY VOLUME
N/A	N/A
EXTINGUISHER MEDIA	
CO ₂ , Foam or Water	
SPECIAL FIRE FIGHTING PROCEDURES	
None known	
UNUSUAL FIRE AND EXPLOSION HAZARDS	
None	

Item Numbers: 00624-1013, 00624-1014, 00624-1015, 00624-1016, 00624-1019, 00624-1039, 00624-1063, 00624-1064, 00624-1065, 00624-1066, 00624-2043, 00624-2044, 00624-2045, 00624-2046, 00624-2253, 00624-2254, 00624-2255, 00624-2256, 00624-2563, 00624-2564, 00624-2565, 00624-2566, 00624-3123, 00624-3124, 00624-3125, 00624-3126, 00624-3183, 00624-3184, 00624-3185, 00624-3186, 00624-3193, 00624-3194, 00624-3195, 00624-3196, 00624-3223, 00624-3224, 00624-3225, 00624-3226, 00624-3233, 00624-3234, 00624-3235, 00624-3236, 00624-3273, 00624-3274, 00624-3275, 00624-3276, 00624-3303, 00624-3304, 00624-3305, 00624-3306, 00624-3313, 00624-3314, 00624-3315, 00624-3316, 00624-3443, 00624-3444, 00624-3445, 00624-3446, 00624-4113, 00624-4114, 00624-4115, 00624-4116, 00624-4133, 00624-4134, 00624-4135, 00624-4136, 00624-4193, 00624-4194, 00624-4195, 00624-4196, 00624-4223, 00624-4224, 00624-4225, 00624-4226, 00624-4233, 00624-4234, 00624-4235, 00624-4236, 00624-4543, 00624-4544, 00624-4563, 00624-4564, 00624-4573, 00624-4574, 00624-4575, 00624-4576, 00624-5063, 00624-5064, 00624-5065, 00624-5066, 00624-5143, 00624-5144, 00624-5145, 00624-5146, 00624-5163, 00624-5164, 00624-5165, 00624-5166, 00624-5183, 00624-5184, 00624-5185, 00624-5186, 00624-5233, 00624-5234, 00624-5235, 00624-5236, 00624-5263, 00624-5264, 00624-5265, 00624-5266, 00624-6023, 00624-6024, 00624-6025, 00624-6026, 00624-6513, 00624-6514, 00624-6515, 00624-6516, 00624-7053, 00624-7054, 00624-7055, 00624-7056, 00624-7063, 00624-7064, 00624-7065, 00624-7066, 00624-7113, 00624-7114, 00624-7115, 00624-7116, 00624-7123, 00624-7124, 00624-7125, 00624-7126, 00624-7303, 00624-7323, 00624-7324, 00624-7325, 00624-7326, 00624-8043, 00624-8044, 00624-8045, 00624-8046, 00624-8053, 00624-8054, 00624-8055, 00624-8056, 00624-8063, 00624-8064, 00624-8065, 00624-8066, 00624-8073, 00624-8074, 00624-8075, 00624-8076, 00624-9013, 00624-9014, 00624-9015, 00624-9016, 00624-9313, 00624-9314, 00624-9315, 00624-9316, 00624-9533, 00624-9613, 00624-9623, 00624-9800, 00624-9801, 00624-9802, 00624-9803, 00624-9804, 00624-9805, 00624-9806, 00624-9807, 00624-9808, 00624-9809, 00624-9810, 00624-9811, 00624-9812, 00624-9813, 00624-9814, 00624-9815, 00624-9816, 00624-9817, 00624-9818, 00624-9819, 00624-9820, 00624-9821, 00624-9822, 00624-9823, 00624-9824, 00624-9825, 00624-9826, 00624-9827, 00624-9828, 00624-9829, 00624-9830, 00624-9831, 00624-9832, 00624-9833, 00624-9834, 00624-9835, 00624-9836, 00624-9837, 00624-9838, 00624-9839, 00624-9840, 00624-9841, 00624-9842, 00624-9843, 00624-9844, 00624-9845, 00624-9846, 00624-9847, 00624-9848, 00624-9849, 00624-9850, 00624-9851, 00624-9852, 00624-9853, 00624-9854, 00624-9855, 00624-9856, 00624-9857, 00624-9858, 00624-9859, 00624-9860, 00624-9861, 00624-9862, 00624-9863, 00624-9864, 00624-9865, 00624-9866, 00624-9867, 00624-9868, 00624-9869, 00624-9870, 00624-9871, 00624-9872, 00624-9873, 00624-9874, 00624-9875, 00624-9876, 00624-9877, 00624-9878, 00624-9879, 00624-9880, 00624-9881, 00624-9882, 00624-9883, 00624-9884, 00624-9885, 00624-9886, 00624-9887, 00624-9888, 00624-9889, 00624-9890, 00624-9891, 00624-9892, 00624-9893, 00624-9894, 00624-9895, 00624-9896, 00624-9897, 00624-9898, 00624-9899, 00624-9900, 00624-9901, 00624-9902, 00624-9903, 00624-9904, 00624-9905, 00624-9906, 00624-9907, 00624-9908, 00624-9909, 00624-9910, 00624-9911, 00624-9912, 00624-9913, 00624-9914, 00624-9915, 00624-9916, 00624-9917, 00624-9918, 00624-9919, 00624-9920, 00624-9921, 00624-9922, 00624-9923, 00624-9924, 00624-9925, 00624-9926, 00624-9927, 00624-9928, 00624-9929, 00624-9930, 00624-9931, 00624-9932, 00624-9933, 00624-9934, 00624-9935, 00624-9936, 00624-9937, 00624-9938, 00624-9939, 00624-9940, 00624-9941, 00624-9942, 00624-9943, 00624-9944, 00624-9945, 00624-9946, 00624-9947, 00624-9948, 00624-9949, 00624-9950, 00624-9951, 00624-9952, 00624-9953, 00624-9954, 00624-9955, 00624-9956, 00624-9957, 00624-9958, 00624-9959, 00624-9960, 00624-9961, 00624-9962, 00624-9963, 00624-9964, 00624-9965, 00624-9966, 00624-9967, 00624-9968, 00624-9969, 00624-9970, 00624-9971, 00624-9972, 00624-9973, 00624-9974, 00624-9975, 00624-9976, 00624-9977, 00624-9978, 00624-

SECTION 5 - REACTIVITY HAZARD DATA		BLICKRYLIC COLORS Page 2 of 2
STABILITY	CONDITIONS TO AVOID	
<input checked="" type="checkbox"/> STABLE	None	
<input type="checkbox"/> UNSTABLE		
INCOMPATIBILITY (MATERIALS TO AVOID)	N/A	
HAZARDOUS DECOMPOSITION PRODUCTS	N/A	
HAZARDOUS POLYMERIZATION	CONDITIONS TO AVOID	
<input type="checkbox"/> MAY OCCUR	None known	
<input type="checkbox"/> WILL NOT OCCUR	N/A	

SECTION 6 - HEALTH HAZARD DATA	
PRIMARY ROUTES OF ENT	N/A
<input type="checkbox"/> INHALATION	<input type="checkbox"/> INGESTION
<input type="checkbox"/> SKIN ABSORPTION	<input type="checkbox"/> NOT HAZARDOUS
CARCINOGEN LISTED IN	N/A
<input type="checkbox"/> NTP	<input type="checkbox"/> OSHA
<input type="checkbox"/> IARC MONOGRAPH	<input checked="" type="checkbox"/> NOT LISTED
HEALTH HAZARDS	ACUTE
Refer to Section 2	CHRONIC
SIGNS AND SYMPTOMS	Not known
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE	Not known
EMERGENCY FIRST AID PROCEDURES	Consult a Physician Immediately.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES	
STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED	
Usual Clean Up Procedure	
WASTE DISPOSAL METHODS	
Dispose of in accordance with Federal and Local State Regulations	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	
Store at room temperature.	
OTHER PRECAUTIONS AND/OR SPECIAL HAZARDS	
Not known	

SECTION 8 - CONTROL AND PROTECTIVE MEASURES	
RESPIRATORY PROTECTION (SPECIFY TYPE)	
None required	
VENTILATION TO BE USED	LOCAL EXHAUSE
None required	OTHER (SPECIFY)
PROTECTIVE GLOVES	N/A
OTHER PROTECTIVE CLOTHING AND EQUIPMENT	N/A
HYGIENIC WORK PRACTICES	N/A
MECHANICAL (GENERAL)	SPECIAL
EYE PROTECTION	N/A

Item Numbers: 00624-1013, 00624-1014, 00624-1015, 00624-1016, 00624-1019, 00624-1039, 00624-1063, 00624-1064, 00624-1065, 00624-1066, 00624-2043, 00624-2044, 00624-2045, 00624-2046, 00624-2253, 00624-2254, 00624-2255, 00624-2256, 00624-2563, 00624-2564, 00624-2565, 00624-2566, 00624-3123, 00624-3124, 00624-3125, 00624-3126, 00624-3183, 00624-3184, 00624-3185, 00624-3186, 00624-3193, 00624-3194, 00624-3195, 00624-3196, 00624-3223, 00624-3224, 00624-3225, 00624-3226, 00624-3233, 00624-3234, 00624-3235, 00624-3236, 00624-3273, 00624-3274, 00624-3275, 00624-3276, 00624-3303, 00624-3304, 00624-3305, 00624-3306, 00624-3313, 00624-3314, 00624-3315, 00624-3316, 00624-3443, 00624-3444, 00624-3445, 00624-3446, 00624-4113, 00624-4114, 00624-4115, 00624-4116, 00624-4133, 00624-4134, 00624-4135, 00624-4136, 00624-4193, 00624-4194, 00624-4195, 00624-4196, 00624-4223, 00624-4224, 00624-4225, 00624-4226, 00624-4233, 00624-4234, 00624-4235, 00624-4236, 00624-4543, 00624-4544, 00624-4563, 00624-4564, 00624-4573, 00624-4574, 00624-4575, 00624-4576, 00624-5063, 00624-5064, 00624-5065, 00624-5066, 00624-5143, 00624-5144, 00624-5145, 00624-5146, 00624-5163, 00624-5164, 00624-5165, 00624-5166, 00624-5183, 00624-5184, 00624-5185, 00624-5186, 00624-5233, 00624-5234, 00624-5235, 00624-5236, 00624-5263, 00624-5264, 00624-5265, 00624-5266, 00624-6023, 00624-6024, 00624-6025, 00624-6026, 00624-6513, 00624-6514, 00624-6515, 00624-6516, 00624-7053, 00624-7054, 00624-7055, 00624-7056, 00624-7063, 00624-7064, 00624-7065, 00624-7066, 00624-7113, 00624-7114, 00624-7115, 00624-7116, 00624-7123, 00624-7124, 00624-7125, 00624-7126, 00624-7303, 00624-7323, 00624-7324, 00624-7325, 00624-7326, 00624-8043, 00624-8044, 00624-8045, 00624-8046, 00624-8053, 00624-8054, 00624-8055, 00624-8056, 00624-8063, 00624-8064, 00624-8065, 00624-8066, 00624-8073, 00624-8074, 00624-8075, 00624-8076, 00624-9013, 00624-9014, 00624-9015, 00624-9016, 00624-9313, 00624-9314, 00624-9315, 00624-9316, 00624-9533, 00624-9613, 00624-9623, 00624-9800, 00624-9801, 00624-9802, 00624-9803, 00624-9804, 00624-9805, 00624-9806, 00624-9807, 00624-9808, 00624-9809, 00624-9810, 00624-9811, 00624-9812, 00624-9813, 00624-9814, 00624-9815, 00624-9816, 00624-9817, 00624-9818, 00624-9819, 00624-9820, 00624-9821, 00624-9822, 00624-9823, 00624-9824, 00624-9825, 00624-9826, 00624-9827, 00624-9828, 00624-9829, 00624-9830, 00624-9831, 00624-9832, 00624-9833, 00624-9834, 00624-9835, 00624-9836, 00624-9837, 00624-9838, 00624-9839, 00624-9840, 00624-9841, 00624-9842, 00624-9843, 00624-9844, 00624-9845, 00624-9846, 00624-9847, 00624-9848, 00624-9849, 00624-9850, 00624-9851, 00624-9852, 00624-9853, 00624-9854, 00624-9855, 00624-9856, 00624-9857, 00624-9858, 00624-9859, 00624-9860, 00624-9861, 00624-9862, 00624-9863, 00624-9864, 00624-9865, 00624-9866, 00624-9867, 00624-9868, 00624-9869, 00624-9870, 00624-9871, 00624-9872, 00624-9873, 00624-9874, 00624-9875, 00624-9876, 00624-9877, 00624-9878, 00624-9879, 00624-9880, 00624-9881, 00624-9882, 00624-9883, 00624-9884, 00624-9885, 00624-9886, 00624-9887, 00624-9888, 00624-9889, 00624-9890, 00624-9891, 00624-9892, 00624-9893, 00624-9894, 00624-9895, 00624-9896, 00624-9897, 00624-9898, 00624-9899, 00624-9900, 00624-9901, 00624-9902, 00624-9903, 00624-9904, 00624-9905, 00624-9906, 00624-9907, 00624-9908, 00624-9909, 00624-9910, 00624-9911, 00624-9912, 00624-9913, 00624-9914, 00624-9915, 00624-9916, 00624-9917, 00624-9918, 00624-9919, 00624-9920, 00624-9921, 00624-9922, 00624-9923, 00624-9924, 00624-9925, 00624-9926, 00624-9927, 00624-9928, 00624-9929, 00624-9930, 00624-9931, 00624-9932, 00624-9933, 00624-9934, 00624-9935, 00624-9936, 00624-9937, 00624-9938, 00624-9939, 00624-9940, 00624-9941, 00624-9942, 00624-9943, 00624-9944, 00624-9945, 00624-9946, 00624-9947, 00624-9948, 00624-9949, 00624-9950, 00624-9951, 00624-9952, 00624-9953, 00624-9954, 00624-9955, 00624-9956, 00624-9957, 00624-9958, 00624-9959, 00624-9960, 00624-9961, 00624-9962, 00624-9963, 00624-9964, 00624-9965, 00624-9966, 00624-9967, 00624-9968, 00624-9969, 00624-9970, 00624-9971, 00624-9972, 00624-9973, 00624-9974, 00624-9975, 00624-9976, 00624-9977, 00624-9978, 00624-

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FAX NO. 00000000

P. 01/02

33525-0005

MATERIAL SAFETY DATA SHEET

Activa Products, Inc.
512 South Garrett
Marshall, TX 75670
TELEPHONE: 903-938-2224

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAMES: ART PLASTER
PRODUCT CATEGORY: CRAFT

SECTION II - HAZARDOUS INGREDIENTS

None

SECTION III - PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: N/A	MELTING POINT: N/A	VAPOR PRESSURE: N/A
SPECIFIC VAPOR DENSITY (AIR=1): N/A	SPECIFIC GRAVITY: N/A	REACTIVITY IN WATER: NON-REACTIVE
SOLUBILITY IN WATER: N/A	APPEARANCE AND ODOR: White Powder	

SECTION IV - FIRE AND EXPLOSION INFORMATION

FLASH POINT (METHOD):	N/A
AUTOIGNITION TEMPERATURE:	N/A
EXPLOSION LIMITS IN AIR (% BY VOLUME):	NOT EXPLOSIVE
EXTINGUISHING MEDIA:	NO SPECIAL MEDIA REQUIRED
FIRE FIGHTING PROCEDURES:	NO SPECIAL FIRE FIGHTING PROCEDURES REQUIRED
UNUSUAL FIRE & EXPLOSION HAZARDS:	NOT COMBUSTIBLE

SECTION V - PHYSICAL HAZARDS/REACTIVITY

HAZARDOUS POLYMERIZATION PRODUCTS:	NONE
STABILITY: STABLE CONDITIONS TO AVOID:	NONE
INCOMPATIBILITY (MATERIALS TO AVOID):	NONE
HAZARDOUS DECOMPOSITION PRODUCTS:	NONE

SECTION VI - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL:	SEE SECTION II FOR COMPONENT PEL/TLVs
PRIMARY ROUTES OF ENTRY:	EYE, SKIN, and INGESTION
EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE:	NONE EXPECTED
EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE:	NONE EXPECTED
CARCINOGEN LISTING:	NTP: NO IARC: NO OSHA: NO
SEE SECTION II FOR COMPONENTS AFFECTED	
MEDICAL CONDITIONS USUALLY AGGRAVATED BY OVER EXPOSURE TO THIS PRODUCT:	NONE
FIRST AID MEASURES:	NONE REQUIRED.
NO ACUTE HEALTH EFFECTS EXPECTED.	

SECTION VII - SPILL OR LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN DURING STORAGE AND HANDLING:	NONE REQUIRED.
STEPS TO BE TAKEN IN CASE A MATERIAL IS SPILLED:	NONE REQUIRED.
WASTE DISPOSAL METHOD: DISPOSE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.	

SECTION VIII - PROTECTIVE EQUIPMENT/CONTROL MEASURES

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RESPIRATORY PROTECTION & SPECIAL VENTILATION REQUIREMENTS:
OTHER PROTECTIVE EQUIPMENT (GLOVES, GOGGLES, ETC):
WORK/HYGIENE PRACTICES:

NONE REQUIRED
NONE REQUIRED
NONE REQUIRED

SECTION IX - ADDITIONAL INFORMATION AND WARNINGS

THIS INFORMATION SHEET IS FOR CONSUMER USE ONLY

SECTION X - COLOR INFORMATION

No Colors



Larry L. Cook, PhD, DABT
July 17, 2012

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 82.00

Revision Date: March 26, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

L-Ascorbic Acid

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

Product should be treated as a chemical and is not for consumption as it has been stored with other nonfood-grade chemicals.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
L-Ascorbic acid	134-03-2	C ₆ H ₈ O ₆	176.13	
Synonym: Vitamin C				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids.
Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Avoid contact with eyes. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Odorless.
Soluble: Water. Slightly in alcohol.

Melting point: 191 °C (decomposes)
Specific gravity: 1.65

SECTION 10 — STABILITY AND REACTIVITY

When heated to decomposition, it emits acrid smoke and irritating fumes.
Shelf life: Good, if kept dry.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD₅₀: N.A.
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (205-126-1).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 26, 2014

1. Identification

Product identifier	ASSURANCE
Other means of identification	
SDS number	573N-33A
Product code	HIL00153
Recommended use	Multipurpose Cleaner
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Manufacturer	
Company name	HILLYARD INDUSTRIES
Address	302 North Fourth St. St. Joseph, MO 64501
Contact person	Regulatory Affairs
Telephone number	(816) 233-1321 (Ext. 8285)
Fax	(816) 383-8485
E-mail	regulatoryaffairs@hillyard.com
Emergency telephone #	(800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals)

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Danger
Hazard statement	Causes skin irritation. Causes serious eye damage.
Precautionary statement	
Prevention	Wash thoroughly after handling. Wear protective gloves. Wear eye/face protection.
Response	If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage	Store away from incompatible materials.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Silicic acid, Sodium Salt		6834-92-0	3 - < 5
Sodium Carbonate, Anhydrous		497-19-8	3 - < 5
Q3 Videt			2.6
Other components below reportable levels			80 - < 90

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not get this material in contact with eyes. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Use protective gloves when dealing with the concentrate.
Other	Impervious boots and aprons where splashing of concentrate is a problem; otherwise, use uniforms or coveralls.
Respiratory protection	Not normally needed. In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	None known.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear orange liquid
Physical state	Liquid.
Form	Liquid.
Color	Orange.
Odor	Lemon odor
Odor threshold	Not available
pH	12.5 - 13.5
Melting point/freezing point	Not available
Initial boiling point and boiling range	215 °F (101.67 °C)
Flash point	> 200.0 °F (> 93.3 °C) Tag Closed Cup
Evaporation rate	< 1 Slower than 1 Ethyl ether = 1
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17.6 mm Hg
Vapor density	0.6 Air=1
Relative density	1.088 at 77°F
Solubility(ies)	
Solubility (water)	100 Complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	9.06 lb/gal
Percent volatile	87 - 88 %
VOC (Weight %)	0 %

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Acids. Oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.
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Information on toxicological effects

Acute toxicity

Product	Species	Test Results
ASSURANCE		
Acute <i>Inhalation</i> LC50	Guinea pig	20 mg/l, 2 Hours estimated
		10350 mg/l, 4 Hours estimated
		30 mg/l, 2 Hours estimated
	Rat	20500 mg/l, 0.5 Hours estimated
		12000 mg/l, 4 Hours estimated
		57.5 mg/l, 2 Hours estimated
<i>Oral</i> LD50	Mouse	62800.0156 mg/kg estimated
	Rat	26581.1348 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
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Serious eye damage/eye irritation	Causes serious eye damage.
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Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
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Skin sensitization	This product is not expected to cause skin sensitization.
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Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
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Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
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US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
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Specific target organ toxicity - single exposure	Not classified.
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Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
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Product	Species	Test Results
ASSURANCE		
Aquatic		
Crustacea	EC50 Daphnia	3870.2993 mg/l, 48 hours estimated
<i>Acute</i>		
Fish	LC50 Fish	3030 mg/l, 96 hours estimated

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
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Bioaccumulative potential

Mobility in soil	No data available.
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Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
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13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Waste from normal product use may be sewered to a public owned treatment works (POTW) in compliance with applicable Federal, State, and local pretreatment requirements.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed.
SARA 304 Emergency release notification	Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	No
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SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA)	Not regulated.
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US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	03-04-2015
Revision date	02-25-2016
Version #	03
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0

Disclaimer	No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.
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Revision Information	Product and Company Identification: Product and Company Identification Physical & Chemical Properties: Multiple Properties
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MATERIAL SAFETY DATA SHEET**Warren Unilube, Inc.**

Address: 915 E. Jefferson Ave.
West Memphis, AR 72301

Phone: (800) 428-9284

Chemtrec Number:
Domestic: 800-424-9300
International: 703-527-3887

PRODUCT IDENTIFICATION

Trade Name: Coastal ND 10, 20, 30, 40, 50 Date Revised: September 12, 2006
Synonyms/product Code: N.A.
Chemical Name: Petroleum Mineral Oil
Family Description: A complex combination of hydrocarbons from a petroleum fraction obtained by solvent crystallization plus additives.
DOT Hazard Class: Not Applicable

NFPA Codes: Health=0, Flammability=1, Reactivity=0

COMPOSITION**Occupational Exposure Limits***

<u>Product</u>	<u>CAS Number</u>	<u>Wt%</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Other</u>	<u>Units</u>
Coastal ND 10, 20, 30, 40, 50 ***	Mixture	100	N.A.	N.A.		

Ingredient(s):

Heavy Naphthenic Petroleum Distillate	64741-53-3	N.A.	N.A.	N.A.	10 STEL	mg/m ³ **
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* = 8-Hr. TWA unless otherwise specified.

** = As mineral oil Mist

*** = All ingredients in this product are listed in the T.S.C.A. Inventory.

N.A. = Not Available

STEL = Short Term Exposure Limit; 15 minutes.

PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point 760 mmHg:	>600F	Melting Point: N.A.
Vapor Pressure mmHg @ 100F:	N.A.	Vapor Density (air=1): N.A.
Solubility in H ₂ O %:	Nil.	pH: N.A.
Specific Gravity (H ₂ O):	0.92	Evaporation Rate (ethyl ether =1):
% Volatile by Volume:	N.A.	Odor: Slight hydrocarbon odor
Viscosity (method, temp):	750 cSt @ 40C	Appearance: Amper Brown-Green Liquid

N.A. = Not Available

FIRE AND EXPLOSION DATA

Flash Point:	400F	
Flammable Limits in Air % by Vol.	Lower: N.A.	Upper: N.A.
Autoignition Temperature:	N.A.	
Extinguishing Media:	Dry chemical, foam, carbon dioxide or water spray.	
Special Fire Fighting Procedure:	Water spray may be ineffective on flames but should be used to keep fire-exposed containers cool. Firefighters should wear self-contained breathing apparatus.	
Unusual Fire or Explosion Hazard:	May ignite when sufficient heat is applied.	

REACTIVITY DATA

Stability:	Stable
Hazardous Polymerization:	Will not occur.
Conditions to Avoid/Incompatibility:	Strong oxidizing agents, heat, spark, flame and build-up of static electricity.
Hazardous Decomposition Products:	Hydrogen sulfide, carbon monoxide, carbon dioxide, and combustion products of sulfur and nitrogen.

HEALTH HAZARD DATA

This product has not been tested as a whole to determine its specific health hazards. The information provided in this section is based on health hazard information on the product components.

Carcinogenicity: NTP: No	IARC Monographs: No	OSHA Regulated: No
Occupational Exposure Limits:	See <u>COMPOSITION</u> section.	

Effects of Overexposure:**Acute:**

Eyes: The heavy petroleum distillate fraction of this product is believed to be minimally irritating.

Skin:	The heavy petroleum distillate fraction of this product is believed to be minimally irritating.
Inhalation:	The inhalation hazards of this product's components are negligible to minimally irritating if airborne concentrations are kept below permissible occupational exposure limits.
Ingestion:	Ingestion hazards range from practically non-toxic to minimally toxic for the components of this product. If vomiting occurs, product is an aspiration hazard.

Chronic: Frequent or prolonged contact may cause skin irritation.

Additional Medical and Toxicological Information: May aggravate pre-existing dermatitis. The International Agency for Research on Cancer (IARC) has determined that there is sufficient evidence for the carcinogenicity in experimental animals of used oil.

EMERGENCY FIRST AID PROCEDURES

Eye Contact:	Flush thoroughly with water for at least 15 minutes. Get medical attention.
Skin Contact:	Remove contaminated clothing. Wash affected areas with soap and water. If irritation occurs, get medical help.
Inhalation:	Remove to fresh air. Apply artificial respiration if not breathing. Get medical attention.
Ingestion:	Do not induce vomiting. If spontaneous vomiting occurs hold the victim's head lower than hips to prevent aspiration.

SPECIAL PROTECTION INFORMATION

Eye Protection:	Remove contact lenses and wear chemical safety goggles where contact with liquid or mist may occur.
Skin Protection:	Wear impervious gloves when contact with skin may occur. Use face shields where splashing may occur.
Inhalation:	Use approved respiratory protective equipment for cleaning large spills or entry into large tanks, vessels or other confined spaces or in situations where exposure may exceed occupational exposure levels.
Ventilation:	Provide adequate ventilation to keep mist or vapors below occupational exposure levels.

SPILL OR LEAK AND DISPOSAL PROCEDURES

Spill Procedures:	Remove sources of heat or ignition including internal combustion engines and power tools. Remove spill with vacuum trucks or pump and soak up residue with and absorbent. Use approved respirator where occupational exposure limits may be exceeded.
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Waste Disposal: Dispose through a licensed waste disposal company. Follow federal, state and local regulation.

SPECIAL PRECAUTIONS AND COMMENTS

Storage Requirements: Store in tightly closed containers in an dry cool place, away from sources of heat, ignition or strong oxidizers. Ground and bond all transfer and storage equipment and equip with self closing valves, pressure vacuum bungs and flame arrestors.

SARA TITLE III INFORMATION

<u>Acute</u>	<u>Chronic</u>	<u>Fire</u>	<u>Pressure</u>	<u>Reactive</u>
	X			

SARA Hazardous Substances

<u>Ingredient</u>	<u>CAS NO.</u>	<u>%, WT</u>	<u>Sec 313</u>	<u>Sec 302</u>	<u>RQ, lb</u>	<u>TPQ, lb</u>
None						

Key: Sec 313 = Toxic Chemicals, Section 313
Sec 302 = Extremely Hazardous Substances (EHS)
RQ = Reportable Quantity of EHS
TPQ = Threshold Planning Quantity of EHS

CALIFORNIA PROPOSITION 65 WARNING

Chemicals known to the State of California to cause cancer, birth defects or other reproductive harm may be found in the petroleum products. Although it is possible to sufficiently refine the petroleum products to remove the potential for cancer, we are advising that one or more of the listed chemicals may be present in some detectable quantities. Read and follow directions and use care when handling these petroleum products.

THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF THIS COMPANY'S KNOWLEDGE AND BELIEVED ACCURATE AND RELIABLE AS OF THE DATE INDICATED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MAKE AS TO THE ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABLENESS AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE.

MATERIAL SAFETY DATA SHEET

SECTION I: PRODUCT IDENTIFICATION AND USE

Product Name: Automatic Dishwashing Detergent Pacs

Manufacturer's Name: Seventh Generation, Inc.

Address: 60 Lake Street, Burlington, VT 05401-5281

Emergency Telephone Number: 800-456-1191

Product Use: Automatic Dishwashing

SECTION II: HEALTH HAZARD DATA

Emergency Overview: Contact with eyes may cause irritation.

Potential Health Effects:

Eyes- Ocular Irritant

Skin- Non-Irritant

Inhalation- Unknown

Ingestion- Toxic

SECTION III: PRODUCT INGREDIENTS

Ingredient Name	Concentration (%)	CAS Number	Exposure Limits	Toxicity Data LD ₅₀ (oral, rat)
Citric Acid	10-100	77-92-9	NAV	3,000 mg/kg
Sodium Carbonate	10-100	497-19-8	NAV	4,090 mg/kg
Sodium Silicate	10-100	1344-09-8	NAV	1,960 mg/kg
Sodium Bicarbonate	1-10	144-55-8	NAV	4,220 mg/kg
Sodium Magnesium Silicate	1-10	53320-86-8	NAV	8,000 mg/kg
Polyaspartic Acid	1-10	617-45-8	NAV	>2,000 mg/kg
Sodium Percarbonate	1-10	15630-89-4	NAV	2,400 mg/kg
PPG-10-Laureth-7	1-10	NAP	NAV	NAV
Sodium Sulfate	1-10	7757-82-6	NAV	1,288 mg/kg
Protease	1-10	9014-01-1	NAV	>5,000 mg/kg
Amylase	0.1-1	9000-90-2	NAV	>2,000 mg/kg
Sodium Aluminosilicate	0.1-1	1318-02-1	NAV	27,000 mg/kg
*Medica limonum peel (Lemon)	<0.3	8020-19-7	NAV	NAV
*Citrus aurantifolia (Lime)	<0.3	5893-73-2	NAV	6,250 mg/kg

* Only present in the Lemon fragranced Automatic Dishwashing Detergent Pacs. d-Limonene is a component of these essential oils.

SECTION IV: FIRST AID MEASURES

First Aid Procedures:

Eyes- Flush eyes with water immediately after contact. Call a physician if irritation persists.

Skin- Not Applicable

Inhalation- Leave the dusty area and seek fresh air exposure. Call a physician if irritation persists.

Ingestion- Do not induce vomiting. Drink 4-8 ounces of water or milk immediately.
Contact a poison control center or physician.

SECTION V: FIRE FIGHTING MEASURES

Flash Point (°C) and Method: Not Flammable

Extinguishing Media: Not Applicable

Special Procedures: None

SECTION VI: ACCIDENTIAL RELEASE MEASURES

Spill and Leak Precautions: Wet the spill and clean up with a paper towel.

SECTION VII: HANDLING, DISPOSAL & STORAGE

Handling Procedures and Equipment: Wear PPE when handling powder or dust.

Waste Disposal: Any disposal practice must be in compliance with local, state, and federal laws and regulations.

Storage Procedures: KEEP OUT OF REACH OF CHILDREN & PETS. Store in a cool, dry place away from excess heat.

Personal Protective Equipment: 3M 8233 mask or equivalent

Engineering Controls: Local Exhaust Ventilation

SECTION VIII: PHYSICAL & CHEMICAL PROPERTIES

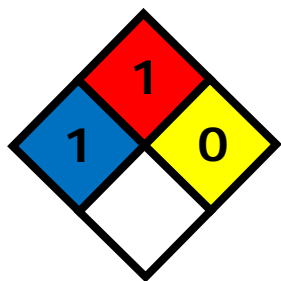
Physical State: Solid

Automatic Dishwashing Detergent Pacs

Color & Appearance: Clear pouch filled with white granular powder		
pH: 7-8		
Specific Gravity: Not Applicable		
Solubility in Water: Miscible		
Percent Volatiles: Not Applicable		
Density (g/cc): 0.8		
Odor Threshold Limit: Not Applicable		
SECTION IX: STABILITY & REACTIVITY		
Chemical Stability: <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable under the following conditions:		
Incompatible Materials: None Known		
Hazardous Decomposition Products: None Known		
Possibility of Hazardous Reactions: None Known		
SECTION X: TOXICOLOGICAL INFORMATION		
Route(s) of Entry: <input checked="" type="checkbox"/> Skin Contact <input type="checkbox"/> Skin Absorption <input checked="" type="checkbox"/> Eye Contact <input checked="" type="checkbox"/> Inhalation, Acute <input type="checkbox"/> Inhalation, Chronic <input type="checkbox"/> Ingestion		
Effects of Acute Exposure to Product: Acute exposure may result in eye irritation; however, no permanent damage is expected.		
Effects of Chronic Exposure to Product: None Known		
LD₅₀ of Product: <5,000 mg/kg		
Chronic Toxicities: <input type="checkbox"/> Carcinogenic <input type="checkbox"/> Reproductive Toxin <input type="checkbox"/> Teratogenic <input type="checkbox"/> Mutagenic <input checked="" type="checkbox"/> None		
SECTION XI: ECOLOGICAL INFORMATION		
Ecotoxicity: LC₅₀ of Product: Not yet known		
Environmental Fate: This product is biodegradable.		
SECTION XII: PREPARATION INFORMATION		
Additional Information: The information in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or any process.		
Sources Used: General MSDS chemical references		
Prepared by Seventh Generation, Inc.	Telephone Number 800-456-1191	Issue Date March 9, 2009
The information contained in this Material Safety Data Sheet is provided by Seventh Generation, Inc. free of charge. While believed to be reliable, it is intended for use by skilled persons at their own risk. Seventh Generation, Inc. assumes no responsibility for events resulting from, or damages incurred from, its use.		

Material Safety Data Sheet

NFPA



HMIS

Health Hazard	1
Fire Hazard	1
Reactivity	0

Issuing Date 12- August-2010

Revision Date 12- August-2010

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	STIHL BAR AND CHAIN LUBRICANT PART NUMBER; 0781-516-5001(32oz); 0781-516-5008 (1 gal); 0781-516-5006 (5 gal); 0781-516-5007 (55 gal).
MSDS Number	BC0001
Recommended Use	
Manufactured by:	Omni Specialty Packaging 10399 S. Hwy 1 Shreveport, LA 71105 Phone: 1 (318) 524-1100
Emergency Telephone Number	CHEMTREC 1 (800) 424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance Straw Viscous Liquid **Physical State** Liquid **Odor** Petroleum odor

Potential Health Effects

Principal Routes of Exposure Eye contact, Skin contact, Inhalation, Ingestion

Acute Toxicity**Eyes**

Irritating, but will not permanently injure eye tissue.

Skin

Substance minimally irritating upon direct contact. May cause irritation.

Inhalation

Will not produce vapors unless heated to temperatures of ~300 °F. Inhalation of oil mist or fumes can cause irritation of the nose, throat and upper respiratory tract

Ingestion

Do not ingest. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Other

On rare occasions, prolonged and repeated exposure to oil mist poses a risk of pulmonary disease such as chronic lung inflammation. This condition is usually asymptomatic as a result of repeated small aspirations.

Chronic Effects

Prolonged exposure may cause chronic effects.

Aggravated Medical Conditions Personnel with pre-existing skin disorders should avoid contact with this product.

Environmental Hazard See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula Mixture

Chemical Name	CAS-No	Weight %
Naphthenic Petroleum Oil	64742-53-6	93-99
Petroleum Product Additive	mixture	1-7

4. FIRST AID MEASURES

Eye Contact Flush with large amount of water for 15 minutes. Get medical attention if eye irritation develops or persists. If material is hot, treat for thermal burns and take victim to the hospital immediately.

Skin Contact Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Get medical attention immediately if skin discoloration occurs.

Inhalation If headache, nausea, irritation, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or symptoms persist.

Ingestion If more than several mouthfuls have been swallowed, give two glasses of water (16 Oz.). Get immediate medical attention or advice.

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable Properties Not flammable.

Flash Point 420°F

Suitable Extinguishing Media Water Fog. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable Extinguishing Media Not Available

Hazardous Combustion Products Not Available

Explosion Data

Sensitivity to Mechanical Impact	Not sensitive.
Sensitivity to Static Discharge	Not sensitive.

Protective Equipment and Precautions for Firefighters Wear positive pressure self-contained breathing apparatus (SCUBA). Use water to cool containers exposed to flames. Structural firefighters' protective clothing will only provide limited protection. Mist or sprays may be flammable below the product normal flash point.

NFPA Health Hazard 1 Flammability 1 Stability 0 Physical and Chemical Hazards -

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Avoid contact with skin, eyes, and clothing. Ensure adequate ventilation. If spilled, take caution, as material can cause surfaces to become very slippery.
Methods for Containment	Dike far ahead of liquid spill for later disposal.
Methods for Cleaning Up	Pick up free liquid for recycle and/or disposal. Residual liquid and/or solid can be absorbed on inert material.
Evacuation Procedures	
Large Spill	Consider initial downwind evacuate for at least 300 meters (1000 feet).
Fire	If tank, rail car or tank car is involved in a fire, isolate for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions.
Reporting Requirements	Spills that enter a water body must be reported immediately to the USEPA's National Response Center at (800)546-2972. Check with your local and state regulators regarding their reporting requirements.

7. HANDLING AND STORAGE

Handling	Do not pressure, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode. See NFPA 30 and OSHA 1910.106 – flammable and combustible liquids.
Storage	Store away from heat, sparks, open flame, or strong oxidizing agents in closed and properly labeled containers. Empty containers retain product residue (liquid, and/or vapor) and can be dangerous

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Naphthenic Petroleum Oil 64742-53-6	5 mg/m ³ 8 hour(s). Form: Mist	5 mg/m ³ 8 hour(s). Form: Mist	2,500 mg/m ³

Engineering Measures	Additional area ventilation or local exhaust may be required to maintain air concentrations below recommended limits.
Personal Protective Equipment	
Eye/Face Protection	Safety glasses or face shield where splashing is possible. Full face-shield to be worn during emergencies.
Skin and Body Protection	As needed to prevent repeated skin contact. Solvent resistant gloves should be used if needed.
Respiratory Protection	Not normally needed. During emergencies wear respirator.
Hygiene Measures	Remove and wash contaminated clothing before re-use. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Straw Viscous Liquid	Odor	Mild Petroleum Oder
Physical State	Liquid	pH	N/A
Flash Point	420°F	Autoignition Temperature	>315.6 °C / > 600°F
Boiling Point/Range	404°C	Freezing Point	<-34°C / <-29.2°F
Explosion Limits	N/A	Flammability Limits in Air	N/A
Specific Gravity	0.91	Solubility	Negligible
Evaporation Rate	N/A	Vapor Pressure	N/A

Vapor Density

1+

Density

N/A

10. STABILITY AND REACTIVITY**Stability**

Stable under recommended storage conditions.

Incompatible Products

Open Flame and strong oxidizing agents.

Conditions to Avoid

Heat, flames, and sparks.

Hazardous Decomposition Products

Decomposition and combustion products may include smoke, carbon dioxide, carbon monoxide, and toxic fumes.

Hazardous Polymerization

None under normal processing.

11. TOXICOLOGICAL INFORMATION**Acute Toxicity****Product Information**

Test on similar materials show a low order of acute oral and dermal toxicity.

Acute Oral Effects

Test on similar materials indicates low order of acute toxicity.

Acute Inhalation Effects

Low acute toxicity expected on inhalation.

Skin Effects

Practically non-toxic if absorbed. Other similar highly refined products have not shown skin tumors in mouse skin painting studies.

Eye Irritation

Minimal irritation on contact. Eye irritation slightly or practically non-irritating base on similar products.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Naphthenic Petroleum Oil 64742-53-6	Rat >5000 mg/kg	Rabbit >5000 mg/kg	Rat > 2.18 mg/L 4 hours

Chronic Toxicity**Chronic Toxicity**

Prolonged exposure may cause chronic effects.

Carcinogenicity

Not considered a potential carcinogen base on IP346 DMSO of less than 3.0 wt%

Target Organ Effects

Respiratory system, Eyes, Skin,

Genotoxicity

This product is considered non-mutagenic and has negative potential for tumor development based on from Modified Ames Assay, with Mutagenic Index of less than 1.0.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

If applied to leaves, this product may kill grasses and small plants by interfering with transpiration and respiration. This product is not toxic to fish but may coat gill structures resulting in suffocation if spilled in shallow, running water. Product may be moderately toxic to amphibians by preventing dermal respiration. This product may cause gastrointestinal distress to birds and mammals through ingestion during pelage grooming.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Naphthenic				

STIHL BAR AND CHAIN LUBRICANT

Packaged for Stihl Incorporated, 536 Viking Drive, Virginia Beach, VA 23452

Revision Date: **12- August-2010**

Petroleum Oil 64742-53-6				
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13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with local regulations. Keep this product out of sewers and waterways.

Contaminated Packaging Dispose of in accordance with local regulations.

Chemical Name	RCRA – Halogenated Organic Compounds	RCRA – P Series Wastes	RCRA – F Series Wastes	RCRA – K Series Wastes
Naphthenic Petroleum Oil 64742-53-6	Does not meet hazardous waste criteria	Does not meet hazardous waste criteria	Does not meet hazardous waste criteria	Does not meet hazardous waste criteria

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION**International Inventories**

	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Naphthenic Petroleum Oil 64742-53-6	Present	X	265-156-6	x	X	x	X	X

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

If spilled into navigable waters it is reportable to National Response Center, 800-424-8802. Reportable Quantity = Oil Sheen present on navigable water surface. (40 CFR 116; 401.15)

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA**U.S. State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

Florida

No listed ingredients are present

Massachusetts RTK

No listed ingredients are present

Minnesota RTK

No listed ingredients are present

New Jersey RTK

Lists petroleum oil, but this product does not contain hazardous ingredients.

Pennsylvania RTK

Lists petroleum oil, but this product does not contain hazardous ingredients greater than 3%.

Illinois DOL TSL

No listed ingredients are present

International Regulations**Mexico – Grade**

No information available.

Canada

Not listed on the Canadian Controlled Product Ingredient Disclosure and is compliant with Controlled Products Regulation

CONEG Metals

Since cadmium, chromium, lead and mercury are not detectable and it does not exceed 100 ppm total in this product, it is compliant with CONEG Metals regulation.

EEC (Europe)

This product is not known to be a dangerous good internationally.

R-Phrases

R45: May Cause Cancer

S-Phrases

S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S53 : Avoid exposure - obtain special instructions before use.

Hazard Label

None

Danger Symbol

T : Toxic

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D2B Toxic materials

16. OTHER INFORMATION**Prepared By**

Safety Department

Issuing Date

12- August-2010

Revision Date

12- August-2010

Revision Note

Not applicable

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 93.00

Revision Date: March 24, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Barium Carbonate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Barium carbonate	513-77-9	BaCO ₃	197.37	
Synonym: Carbonic acid, barium salt				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P302+P301+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates.
Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling (P264). Use only in a well-ventilated area or in a hood.

Exposure guidelines: (as barium) PEL/TLV 0.5 mg/m³ (OSHA/ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Odorless.

Soluble: Acids (not sulfuric). Insoluble in water.

Boiling point: decomposes

Melting point: 1740 @ 90 atm

Specific gravity: 4.430

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Highly toxic, irritant, stomach pains, vomiting, and diarrhea.

Chronic effects: N.A.

Target organs: Heart, nerves, kidneys, GI system, bone marrow, spleen, and liver.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

ORL-RAT LD₅₀: 418 mg/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #27h is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Barium compounds, N.O.S. Hazard class: 6.1, Keep away from food. UN number: UN1564.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (208-167-3), RCRA code D005.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 24, 2014

MSDS # 80.00

Barium Chloride, Dihydrate**Section 1: Product and Company Identification****Barium Chloride, Dihydrate****Synonyms/General Names:** Barium Dichloride**Product Use:** For educational use only**Manufacturer:** Columbus Chemical Industries, Inc., Columbus, WI 53925.**24 Hour Emergency Information Telephone Numbers****CHEMTREC (USA): 800-424-9300****CANUTEC (Canada): 613-424-6666**

Scholar Chemistry; 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.Scholarchemistry.com

Section 2: Hazards Identification*White crystalline powder; no odor.***WARNING!** Highly toxic by ingestion

Target organs: Circulatory system, Central nervous system, kidneys

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 3: Composition / Information on Ingredients

Barium Chloride, Dihydrate (10326-27-9), 100%

Section 4: First Aid Measures*Always seek professional medical attention after first aid measures are provided.***Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.**Ingestion:** Call Poison Control immediately. Rinse mouth with cold water. Give victim 1-2 cups of water or milk to drink. Induce vomiting immediately.**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration.**Section 5: Fire Fighting Measures**

Non-flammable solid. When heated to decomposition, emits acrid fumes.

Protective equipment and precautions for firefighters: Use foam or dry chemical to extinguish fire.

Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to mechanical impact or static discharge.

**Section 6: Accidental Release Measures**

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Sweep up spill and place in sealed bag or container for disposal. Wash spill area after pickup is complete. See Section 13 for disposal information.

Section 7: Handling and Storage**Blue****Handling:** Use with adequate ventilation and do not breathe dust or vapor. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling.**Storage:** Store in Toxic Storage Area [Blue Storage] with other toxic material. Store in a dedicated poison cabinet. Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.**Section 8: Exposure Controls / Personal Protection**Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking. Use NIOSH-approved respirator with a dust cartridge. Exposure guidelines: Barium compounds: OSHA PEL: 0.5 mg/m³, ACGIH: TLV: 0.5 mg/m³, STEL: N/A.

Section 9: Physical and Chemical Properties

Molecular formula	BaCl ₂ •2H ₂ O	Appearance	White crystalline powder.
Molecular weight	244.28.	Odor	No odor.
Specific Gravity	3.097 g/mL @ 20°C.	Odor Threshold	N/A.
Vapor Density (air=1)	7.21	Solubility	31 grams/100 mL. water @ 0°C.
Melting Point	925°C.	Evaporation rate	N/A (<i>Butyl acetate</i> = 1).
Boiling Point/Range	1560 °C.	Partition Coefficient	N/A (<i>log P_{OW}</i>).
Vapor Pressure (20°C)	N/A.	pH	N/A.
Flash Point:	N/A.	LEL	N/A.
Autoignition Temp.:	N/A.	UEL	N/A.

.N/A = Not available or applicable

Section 10: Stability and Reactivity

Stability: Stable under normal conditions of use and storage. Avoid heat and ignition sources.

Incompatibility: Strong oxidizers, acids

Shelf life: Indefinite if stored properly.

Section 11: Toxicology Information

Acute Symptoms/Signs of exposure: *Eyes:* Redness, tearing, itching, burning, conjunctivitis. *Skin:* Redness, itching.

Ingestion: Irritation and burning sensations of mouth and throat, nausea, vomiting and abdominal pain. **Inhalation:** Irritation of mucous membranes, coughing, wheezing, shortness of breath,

Chronic Effects: No information found.

Sensitization: none expected

Barium Chloride: LD50 [oral, rat]; 118 mg/kg; LC50 [rat]; N/A; LD50 Dermal [rabbit]; N/A

Material has not been found to be a carcinogen nor produce genetic, reproductive, or developmental effects.

Section 12: Ecological Information

Ecotoxicity (aquatic and terrestrial): Barium Chloride LC50; 870 mg/L (*Leuciscus idus*)

Contains a heavy metal – toxic to terrestrial and aquatic plants and animals. Do not release to environment.

Section 13: Disposal Considerations

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Use a licensed chemical waste disposal firm for proper disposal.

Section 14: Transport Information

DOT Shipping Name:	Barium compounds, n.o.s.	Canada TDG:	Barium compounds, n.o.s.
DOT Hazard Class:	6.1, pg III.	Hazard Class:	6.1, pg III.
Identification Number:	UN1564.	UN Number:	UN1564.

Section 15: Regulatory Information

EINECS: Listed (233-788-1).

TSCA: All components are listed or are exempt.

WHMIS Canada: D1B: Toxic material causing immediate/serious effects .

California Proposition 65: Not listed.

The product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Section 16: Other Information

Current Issue Date: January 23, 2009

Disclaimer: Scholar Chemistry and Columbus Chemical Industries, Inc., ("S&C") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because S&C has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. S&C makes no warranty, expressed or implied, including (without limitation) warranties with respect to the completeness or continuing accuracy of the information contained herein or with respect to fitness for any particular use.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 94.00

Revision Date: June 29, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Barium Chloride

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 3). Toxic if swallowed (H301). Do not eat, drink or smoke when using this product (P270).

Hazard class: Acute toxicity, inhalation (Category 4). Harmful if inhaled (H332). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Barium chloride dihydrate	10326-27-9	BaCl ₂ ·2H ₂ O	244.28	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Immediately call a POISON CENTER or physician (P301+P310+P330).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a Flinn Chem-Saf™ bag.

Store in a cool, dry place. Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: (as barium) PEL/TLV 0.5 mg/m³ (OSHA/ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Odorless.

Soluble: Water (39.3 grams/100 mL)

Boiling point: 1560 °C

Melting point: 962 °C

Specific gravity: 3.1

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Highly toxic, irritant, stomach pains, vomiting, and diarrhea

Chronic effects: N.A.

Target organs: heart, nerves, kidneys, GI system, bone marrow, spleen, and liver.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

ORL-RAT LD₅₀: 118 mg/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #27h is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Barium compounds, N.O.S. Hazard class: 6.1, Keep away from food. UN number: UN1564.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (233-788-1), RCRA D005.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: June 29, 2015

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 95.00

Revision Date: March 24, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Barium Hydroxide

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral and inhalation (Category 4). Harmful if swallowed or inhaled (H302+H332). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314). Do not breathe dust or fumes (P260).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Barium hydroxide	12230-71-6	Ba(OH) ₂ ·8H ₂ O	315.50	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338).

If on skin (or hair): Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353).

If swallowed: Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Do not allow solid to become airborne. Ventilate area. Sweep up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates.

Store in a cool, dry place. Keep container tightly closed. Store in Flinn Chem-Saf™ bag.

Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: (as barium) PEL/TLV 0.5 mg/m³ (OSHA/ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White, crystalline powder. Odorless.

Boiling point: 780 °C

Soluble: Water and alcohol

Melting point: 78 °C

Specific gravity: 2.2

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with acids.

Shelf life: Poor, absorbs carbon dioxide from the air. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Highly toxic, corrosive.

ORL-RAT LD₅₀: 550 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: Heart, kidneys, GI system, bone marrow, spleen, and liver.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #27h is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Barium compounds, N.O.S. Hazard class: 6.1, Keep away from food. UN number: UN1564.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (241-234-5), RCRA D002, D005.

SECTION 16 — OTHER INFORMATION

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Revision Date: March 24, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 96.10

Revision Date: March 24, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Barium Nitrate Solution

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Hazard class: Serious eye damage or irritation (Category 2B). Causes eye irritation (H320).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Barium nitrate	10022-31-8	Ba(NO ₃) ₂	261.55	2.6-8.7%
Methylparaben solution	99-76-3	C ₈ H ₈ O ₃	152.16	<0.1%
Water	7732-18-5	H ₂ O	18.00	92% or more

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #3. Store with amides, nitrates, nitrites and azides.
Store in a cool, dry place. May explode when heated.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling (P264).
Exposure guidelines: (as barium) PEL/TLV 0.5 mg/m³ (OSHA/ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear, colorless solution. Odorless.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with acids, bases, acid anhydrides, reducing agents, organic compounds, moisture, and heat.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, irritant, diarrhea, nausea, vomiting.

ORL-RAT LD₅₀: 355 mg/kg as barium nitrate

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: Heart, nerves, kidneys, GI system, bone marrow, spleen, liver, and blood.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #27h is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Barium Nitrate. Hazard class: 5.1, Oxidizer, Poison. UN number: UN1446.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (233-020-5), RCRA D001, D005.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 24, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 96.00

Revision Date: March 24, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Barium Nitrate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Oxidizing solids (Category 2). May intensify fire; oxidizer (H272). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral and inhalation (Category 4). Harmful if swallowed or inhaled (H302+H332). Do not eat, drink or smoke when using this product (P270). Avoid breathing dust or fumes (P261).

Hazard class: Skin corrosion or irritation (Category 3). Causes mild skin irritation (H316).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Barium nitrate	10022-31-8	Ba(NO ₃) ₂	261.55	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water. **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P302+P301+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

Fire risk; strong oxidizer. When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher. Take any precautions to avoid mixing with combustibles (P221+P370+P378).

NFPA Code

None

established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #3. Store with amides, nitrates, nitrites and azides.

Store in a cool, dry place. May explode when heated. Keep and store away from clothing and combustible materials (P220). Take any precautions to avoid mixing with combustibles (P221). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: (as barium) PEL/TLV 0.5 mg/m³ (OSHA/ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White, crystalline powder. Odorless.

Boiling point: 590 °C (decomposes)

Soluble: Water. Insoluble in alcohol.

Specific gravity: 3.24

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with acids, bases, acid anhydrides, reducing agents, organic compounds, moisture, and heat.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, irritant, diarrhea, nausea, vomiting.

ORL-RAT LD₅₀: 355 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: Heart, nerves, kidneys, GI system, bone marrow, spleen, liver, and blood.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #27h is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Barium Nitrate. Hazard class: 5.1, Oxidizer, Poison. UN number: UN1446.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

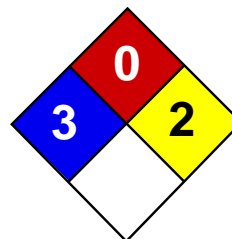
TSCA-listed, EINECS-listed (233-020-5), RCRA D001, D005.

SECTION 16 — OTHER INFORMATION

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Revision Date: March 24, 2014



Health	3
Fire	0
Reactivity	2
Personal Protection	J

Material Safety Data Sheet

Barium oxide MSDS

Section 1: Chemical Product and Company Identification

Product Name: Barium oxide

Catalog Codes: SLB4825

CAS#: 1304-28-5

RTECS: CQ9800000

TSCA: TSCA 8(b) inventory: Barium oxide

CI#: Not available.

Synonym:

Chemical Formula: BaO

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Barium oxide	1304-28-5	100

Toxicological Data on Ingredients: Barium oxide LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects:

Extremely hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Very hazardous in case of skin contact (corrosive), of inhalation. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

Extremely hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Very hazardous in case of skin contact (corrosive), of inhalation. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:

Corrosive solid. Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage**Precautions:**

Keep locked up.. Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as acids, moisture.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection**Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 0.5 Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Powdered solid.)

Odor: Odorless.

Taste: Not available.

Molecular Weight: 153.36 g/mole

Color: White to yellowish.

pH (1% soln/water): Not available.

Boiling Point: 2000°C (3632°F)

Melting Point: 1918°C (3484.4°F)

Critical Temperature: Not available.

Specific Gravity: 5.72 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol.

Solubility: Partially soluble in cold water, methanol.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances:
Highly reactive with acids. Reactive with moisture.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
LD50: Not available. LC50: Not available.

Chronic Effects on Humans: Causes damage to the following organs: lungs, mucous membranes.

Other Toxic Effects on Humans:
Extremely hazardous in case of skin contact (irritant), of ingestion. Very hazardous in case of skin contact (corrosive), .
Hazardous in case of eye contact (corrosive), of inhalation (lung corrosive).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Excreted in maternal milk in animal. Passes through the placental barrier in human.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are as toxic as the original product.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: CLASS 6.1: Poisonous material.

Identification: : Barium Oxide UNNA: UN1884 PG: III

Special Provisions for Transport: Marine Pollutant

Section 15: Other Regulatory Information

Federal and State Regulations:

Pennsylvania RTK: Barium oxide Massachusetts RTK: Barium oxide TSCA 8(b) inventory: Barium oxide SARA 313 toxic chemical notification and release reporting: Barium oxide

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):

CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC): R34- Causes burns.

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 2

Personal Protection: j

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 0

Reactivity: 2

Specific hazard:

Protective Equipment:

Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/09/2005 04:18 PM

Last Updated: 05/21/2013 12:00 PM

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FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 98.00

Revision Date: March 24, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Barium Sulfate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Barium sulfate	7727-43-7	BaSO ₄	233.43	
Synonym: Barite				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.
Exposure guidelines: PEL 15 mg/m³ (OSHA); TLV 5 mg/m³ (inhalable fraction) (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White, heavy powder. Odorless.
Soluble: Insoluble in water.

Melting point: 1580 °C (decomposes @ 1600 °C)
Specific gravity: 4.3

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with aluminum and phosphorus.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

ORL-RAT LD₅₀: N.A.

Chronic effects: Prolonged inhalation of dust may cause baritosis, a benign pneumoconiosis. If ingested, the presence of soluble barium salts as impurities may cause toxic reactions due to bioaccumulation.

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-784-4), RCRA D005.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 24, 2014



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product number 856
Product name Baseboard Cleaner & Wax Stripper
Effective date 08-Aug-2008
Company information Claire Manufacturing
500 Vista Ave.
Addison, IL 60101 United States
Company phone General Assistance 630-543-7600
Emergency telephone US 800-424-9300
Emergency telephone outside US 703-527-3887
Version # 03
Supersedes date 13-Nov-2007

2. Hazards Identification

Emergency overview CONTENTS UNDER PRESSURE. Aerosol. Pressurized container may explode when exposed to heat or flame.
Harmful in contact with eyes. Cancer hazard. Prolonged exposure may cause chronic effects.

Potential health effects

Routes of exposure Skin contact. Eye contact. Inhalation. Ingestion.

Eyes Contact may irritate or burn eyes. Eye contact may result in corneal injury.

Skin Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

Inhalation Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Prolonged inhalation may be harmful.

Ingestion Exposure by ingestion of an aerosol is unlikely. Harmful if swallowed. May cause delayed lung damage.

Target organs Kidney.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged and may cause blood damage. These effects have not been observed in humans.
Blood. Central nervous system. Liver. Respiratory system.

Chronic effects Unconsciousness. Conjunctiva. Liver injury may occur. Kidney injury may occur. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. May cause delayed lung damage.

3. Composition / Information on Ingredients

Components	CAS #	Percent
2-Butoxyethanol	111-76-2	20 - 30
n-Butane	106-97-8	5 - 8
Propane	74-98-6	3 - 5
Crystalline Silica	14808-60-7	0.5 - 1
Non-hazardous and other components below reportable levels		60 - 80

4. First Aid Measures

First aid procedures

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention immediately.

Skin contact Immediately flush skin with plenty of water. Remove and isolate contaminated clothing and shoes. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.

Inhalation

Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Ingestion

Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

5. Fire Fighting Measures

Flammable properties

Containers may explode when heated.

Extinguishing media**Suitable extinguishing media**

Alcohol foam. Dry chemical. Carbon dioxide (CO2).

Protection of firefighters**Protective equipment and precautions for firefighters**

In the event of fire and/or explosion do not breathe fumes. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Containers should be cooled with water to prevent vapor pressure build up. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

6. Accidental Release Measures

Methods for containment

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable.

Methods for cleaning up

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated surface thoroughly.

7. Handling and Storage

Handling

Pressurized container: Do not pierce or burn, even after use. Do not handle or store near an open flame, heat or other sources of ignition. Do not use if spray button is missing or defective. Use only with adequate ventilation. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Wear personal protective equipment. Wash hands after handling and before eating. Avoid prolonged exposure.

Storage

Level 1 Aerosol.
Contents under pressure. Do not puncture, incinerate or crush. The pressure in sealed containers can increase under the influence of heat. Avoid exposure to long periods of sunlight. Keep in an area equipped with sprinklers. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Exposure limits**ACGIH****Components****CAS #****TWA****STEL****Ceiling**

2-Butoxyethanol

111-76-2

20 ppm

Not established

Not established

n-Butane

106-97-8

1000 ppm

Not established

Not established

Propane

74-98-6

1000 ppm

Not established

Not established

Crystalline Silica

14808-60-7

0.025 mg/m3

Not established

Not established

OSHA**Components****CAS #****TWA****STEL****Ceiling**

2-Butoxyethanol

111-76-2

50 ppm

Not established

Not established

Propane

74-98-6

1000 ppm

Not established

Not established

Personal protective equipment**Eye / face protection**

Wear chemical goggles.

Skin protection

Wear appropriate chemical resistant gloves. Wear suitable protective clothing. Wear chemical protective equipment that is specifically recommended by the manufacturer.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

9. Physical & Chemical Properties

Appearance	Compressed liquefied gas.
Boiling point	255.2 °F (123.9 °C) estimated
Color	Brown.
Flammability (HOC)	10.6737 kJ/g estimated
Flash back	No
Flash point	-156 °F (-104.4 °C) estimated
Form	Aerosol.
Odor	Solvent.
pH	11.5 - 12.5
Physical state	Liquid.
Pressure	35 - 45 psig @ 70F
Solubility	Partially
Specific gravity	0.9271 estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of ignition. Stable at normal conditions.
Conditions to avoid	Heat, flames and sparks.
Hazardous decomposition products	May include oxides of oxides of carbon.

11. Toxicological Information

Acute effects	Acute LD50: 956 mg/kg estimated, Rat, Dermal Acute LC50: 10 mg/l/4h estimated, Rat, Inhalation
Carcinogenicity	Hazardous by OSHA criteria. Cancer hazard.

12. Ecological Information

Ecotoxicity	LC50 917 mg/L estimated, Fish, 96.00 Hours, EC50 31025 mg/L estimated, Daphnia, 48.00 Hours, IC50 196 mg/L estimated, Algae, 72.00 Hours, Components of this product have been identified as having potential environmental concerns.
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13. Disposal Considerations

Waste codes	D001: Waste Flammable material with a flash point <140 F D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel]
Disposal instructions	Contents under pressure. Dispose of this material and its container at hazardous or special waste collection point. Do not allow this material to drain into sewers/water supplies. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose in accordance with all applicable regulations.

14. Transport Information

Department of Transportation (DOT) Requirements

Basic shipping requirements:

Proper shipping name	Consumer commodity
Hazard class	ORM-D
Subsidiary hazard class	None

Additional information:

Packaging exceptions	156, 306
Packaging non bulk	156, 306
Packaging bulk	None

IMDG**Basic shipping requirements:**

Proper shipping name AEROSOLS
Hazard class 2.1
UN number 1950
Additional information:
Packaging exceptions LTD QTY
Labels required None

**IATA****Basic shipping requirements:**

Proper shipping name Aerosols, flammable
Hazard class 2.1
UN number 1950
Additional information:
Packaging exceptions LTD QTY
Labels required 2.1



15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

2-Butoxyethanol	111-76-2	1.0 % de minimis concentration (applies to R-(OCH ₂ CH ₂) _n -OR', where n = 1,2, or 3, R=alkyl C7 or less, or R = phenyl or alkyl substituted phenyl, R' = H or alkyl C7 or less, or OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate, Chemical Category N230)
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Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - No
 Delayed Hazard - Yes
 Fire Hazard - Yes
 Pressure Hazard - Yes
 Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations

WARNING: This product contains a chemical known to the State of California to cause cancer.

U.S. - Pennsylvania - RTK (Right to Know) List

2-Butoxyethanol	111-76-2	Present
Crystalline Silica	14808-60-7	Present
n-Butane	106-97-8	Present
Propane	74-98-6	Present

16. Other Information

HMIS® ratings

Health: 1*
Flammability: 2
Physical hazard: 0

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

MSDS sections updated

Hazards Identification: Emergency overview
Hazards Identification: Target organs
Handling and Storage: Storage
Physical & Chemical Properties: Fire Fighting Measures
Physical & Chemical Properties: Appearance
Transport Information: Product Shipping Name/Packing Group
Regulatory Information: United States



Material Safety Data Sheet

SECTION I - Material Identity
SECTION II - Manufacturer's Information
SECTION III - Physical/Chemical Characteristics
SECTION IV - Fire and Explosion Hazard Data
SECTION V - Reactivity Data
SECTION VI - Health Hazard Data
SECTION VII - Precautions for Safe Handling and Use
SECTION VIII - Control Measures
SECTION IX - Label Data
SECTION X - Transportation Data
SECTION XI - Site Specific/Reporting Information
SECTION XII - Ingredients/Identity Information

SECTION I - Material Identity

Item Name	
Part Number/Trade Name	05023 BATTERY CLEANER AEROSOL
National Stock Number	6850P05023
CAGE Code	023V4
Part Number Indicator	A
MSDS Number	188730
HAZ Code	B

SECTION II - Manufacturer's Information

Manufacturer Name	CRC INDUSTRIES, INC
Street	885 LOUIS DR
City	WARMINSTER
State	PA
Country	US
Zip Code	18974
Emergency Phone	800-424-9300 (CHEMTREC)
Information Phone	215-674-4300

MSDS Preparer's Information

Date MSDS Prepared/Revised	21DEC99
Date of Technical Review	28OCT96
Active Indicator	N

Alternate Vendors

SECTION III - Physical/Chemical Characteristics

Specification Number	NONE
Specification Type/Grade/Class	NONE
Hazard Storage Compatibility Code	F1
NRC License Number	NR
Net Propellant Weight (Ammo)	NR
Appearance/Odor	CLEAR LIQUID, NO ODOR
Boiling Point	212 F
Melting Point	32.0F, 0.0C
Vapor Pressure	WATER
Vapor Density	NR
Specific Gravity	1.04
Decomposition Temperature	NR
Evaporation Rate	NA
Solubility in Water	SOLUBLE
Percent Volatiles by Volume	NR
Chemical pH	NA
Corrosion Rate	NR
Container Pressure Code	2
Temperature Code	4
Product State Code	L

SECTION IV - Fire and Explosion Hazard Data

Flash Point	20
Flash Point Method	TCC
Lower Explosion Limit	NR
Upper Explosion Limit	NR
Extinguishing Media	CARBON DIOXIDE, FOAM
Special Fire Fighting Procedures	USE A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE EQUIPMENT. COOL FIRE EXPOSED CONTAINERS WITH WATER FOG
Unusual Fire/Explosion Hazards	CONTAINERS MAY BURST AT TEMPERATURES ABOVE 120F

SECTION V - Reactivity Data

Stability	YES
Stability Conditions to Avoid	HIGH HEAT (ABOVE 120F) , SOURCES OF IGNITION
Materials to Avoid	STRONG OXIDIZERS
Hazardous Decomposition Products	NONE SPECIFIED BY MANUFACTURER
Hazardous Polymerization	NO
Polymerization Conditions to Avoid	N/R
LD50 - LD50 Mixture	LD50 FOR THIS PRODUCT IS NOT ESTABLISHED

SECTION VI - Health Hazard Data

Route of Entry: Skin	YES
Route of Entry: Ingestion	YES
Route of Entry: Inhalation	YES
Health Hazards - Acute and Chronic	EYES:MAY CAUSE IRRITATION.SKIN:MAY CAUSE IRRITATION.INGEST:UNLIKLEY ROUTE OF EXPOSURE.INHAL:MAY CAUSE RESPIRATORY IRRITATION
Carcinogenity: NTP	NO
Carcinogenity: IARC	NO
Carcinogenity: OSHA	NO
Explanation of Carcinogenity	THERE ARE NO INGREDIENTS ABOVE 0.1% WHICH ARE IDENTIFIED AS CARCINOGENS BY NTP,IARC OR OSHA
Symptoms of Overexposure	NONE SPECIFIED BY MANUFACTURER
Medical Cond. Aggravated by Exposure	NONE SPECIFIED BY MANUFACTURER
Emergency/First Aid Procedures	SKIN:REMOVE CONTAMINATED CLOTHING;WASH WITH WATER.EYES:FLUSH WITH WATER FOR 15 MINUTES.INHAL:REMOVE TO FRESH AIR.GIVE OXYGENOR ARTIFICIAL RESPIRATION IF NEEDED.INGEST:GET PROMPT QUALIFIED MEDICAL ATTENTION.IF CONSCIOUS,INDUCE VOMITING UNDER THE DIRECTION OF MEDICAL PERSONNEL

SECTION VII - Precautions for Safe Handling and Use

Steps if Material Released/Spilled	ELIMINATE SOURCES OF IGNITION.USE PROPER RESPIRATORY AND PROTECTIVE EQUIPMENT.VENTILATE AREA.SOAK
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Neutralizing Agent	UP WITH A NON-COMBUSTIBLE INERT ABSORBANT (CLAY,SAND);PLACE IN PROPER CONTAINER FOR DISPOSAL
Waste Disposal Method	NOT APPLICABLE
Handling and Storage Precautions	DISPOSE OF IN ACCORDANCE WITH FEDERAL,STATE AND LOCAL REGULATIONS
Other Precautions	STORE AT TEMPERATURES BELOW 120F.FOLLOW LABEL DIRECTIONS
	NONE SPECIFIED BY MANUFACTURER

SECTION VIII - Control Measures

Respiratory Protection	NOT NEEDED IN NORMAL SERVICE
Ventilation	USE GENERAL DILUTION VENTILATION(HMIS)
Protective Gloves	CHEMICALLY PROTECTIVE GLOVES
Eye Protection	SAFETY GLASSES
Other Protective Equipment	PROVIDE A LOCAL EYE WASH STATION AND SAFETY SHOWER
Work Hygienic Practices	USE REASONABLE CARE IN HANDLING THIS PRODUCT.WASHHANDS AFTER USE AND BEFORE EATING
Supplemental Health/Safety Data	NONE

SECTION IX - Label Data

Protect Eye	YES
Protect Skin	YES
Protect Respiratory	YES
Chronic Indicator	NO
Contact Code	SLIGHT
Fire Code	UNKNOWN
Health Code	UNKNOWN
React Code	UNKNOWN
Specific Hazard and Precaution	NO TARGET ORGANS LISTED FOR CHRONIC EXPOSURES

SECTION X - Transportation Data

SECTION XI - Site Specific/Reporting Information

Volatile Organic Compounds (P/G)	.2503
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Volatile Organic Compounds (G/L) 30

SECTION XII - Ingredients/Identity Information

Ingredient #	01
Ingredient Name	SODIUM BICARBONATE (<10%)
CAS Number	144558
NIOSH Number	VZ0950000
Proprietary	NO
Percent	10
OSHA PEL	NOT ESTABLISHED
ACGIH TLV	NOT ESTABLISHED
Recommended Limit	NONE RECOMMENDED
Ingredient #	02
Ingredient Name	WATER (>90%)
CAS Number	7732185
NIOSH Number	ZC0110000
Proprietary	NO
Percent	90
OSHA PEL	NOT ESTABLISHED
ACGIH TLV	NOT ESTABLISHED
Recommended Limit	NONE RECOMMENDED
Ingredient #	03
Ingredient Name	ISOBUTANE (<10%)
CAS Number	75285
NIOSH Number	TZ4300000
Proprietary	NO
Percent	10
OSHA PEL	NOT ESTABLISHED
ACGIH TLV	NOT ESTABLISHED
Recommended Limit	NONE RECOMMENDED
Ingredient #	04
Ingredient Name	DETERGENT (<10%)
CAS Number	UNKNOWN
NIOSH Number	1000066DT
Proprietary	NO
Percent	10
OSHA PEL	NOT ESTABLISHED
ACGIH TLV	NOT ESTABLISHED
Recommended Limit	NONE RECOMMENDED
Ingredient #	05
Ingredient Name	2-BUTOXY ETHANOL (<10%)
CAS Number	111762
Percent	10
Ingredient #	06
Ingredient Name	PROPANE (<10%)
CAS Number	74986

Percent

10



MANTEK DIV OF NCH CORP -- 4013 BEAUTI-TRAC -- 8010-00F037445

===== Product Identification =====

Product ID:4013 BEAUTI-TRAC
MSDS Date:12/05/1988
FSC:8010
NIIN:00F037445
Kit Part:Y
MSDS Number: BWJBZ
=== Responsible Party ===
Company Name:MANTEK DIV OF NCH CORP
Box:152170
City:IRVING
State:TX
ZIP:75015
Country:US
Info Phone Num:800-442-7950
Emergency Phone Num:214-438-1381
Preparer's Name:KEVIN UHL
CAGE:GO368

=== Contractor Identification ===

Company Name:MANTEK DIV OF NCH CORP
Box:152170
City:IRVING
State:TX
ZIP:75015
Country:US
Phone:800-442-7950
CAGE:GO368
Company Name:NCH CORP / MANTEK DIV
Address:1320 E NORTHGATE DRIVE
Box:152170
City:IRVING
State:TX
ZIP:75015-2170
Country:US
Phone:800-527-9919
CAGE:64796

===== Composition/Information on Ingredients =====

Ingred Name:BISPHENOL A DIGLYCIDYL ETHER RESIN, EPOXY RESIN, EPON 820,
ARALDITE 6004, 4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN
CAS:25068-38-6
RTECS #:KD4380000

===== Hazards Identification =====

Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:SKIN: IRRITATION/SENSITIZATION.
INHALATION: RESPIRATORY TRACT IRRITATION. CHRONIC: SKIN BURNS & EYE
DAMAGE.
Explanation of Carcinogenicity:NONE
Effects of Overexposure:IRRITATION, HEADACHES, NAUSEA, DIZZINESS, BURNS

===== First Aid Measures =====

First Aid:INHALATION: REMOVE TO FRESH AIR & RESTORE BREATHING. EYES:
 FLUSH W/WATER FOR 15 MINS. SKIN: WASH W/SOAP & WATER. INGESTION:
 GIVE LARGE QUANTITIES OF WATER & INDUCE VOMITING. OBTAIN MEDICAL
 ATTENTION I N ALL CASES.

===== Fire Fighting Measures =====

Flash Point:>200F
 Extinguishing Media:FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER SPRAY
 Fire Fighting Procedures:USE WATER SPRAY TO DISPERSE THE VAPORS TO
 PROTECT PEOPLE. WEAR SCBA, GOGGLES IF NECESSARY & FULL PROTECTIVE
 CLOTHING. WATER MAY BE USED TO KEEP CONTAINERS COOL.
 Unusual Fire/Explosion Hazard:CLOSED CONTAINERS MAY RUPTURE WHEN
 EXPOSED TO HEAT.

===== Accidental Release Measures =====

Spill Release Procedures:ELIMINATE ALL SOURCES OF IGNITION. ABSORB
 W/INERT MATERIAL. VENTILATE AREA WELL. FLUSH W/PLENTY OF WATER.
 PREVENT WASHING FROM ENTERING WATERWAYS. PUT SOILED RAGS IN METAL
 CONTAINER AFTER USE.

===== Handling and Storage =====

Handling and Storage Precautions:STORE BETWEEN 35-120F & INDOOR. DON'T
 APPLY TO HOT SURFACES/USE IN AREAS WHERE EXPOSED TO ELECTRIC
 SPARKS. KEEP AWAY FROM HEAT/OPEN FLAME.
 Other Precautions:KEEP AWAY FROM CHILDREN. READ & FOLLOW LABEL
 DIRECTIONS. STORE ONLY IN THE LABELED CONTAINERS. USE W/ADEQUATE
 VENTILATION.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:NIOSH APPROVED ORGANIC VAPOR/AIRLINE RESPIRATORS
 SHOULD BE USED WHERE VENTILATION IS NOT ADQEUATE.
 Ventilation:LOCAL EXHAUST/MECHANICAL
 Protective Gloves:POLYVINYL ALCOHOL
 Eye Protection:CHEMICAL SPLASH GOGGLES
 Supplemental Safety and Health

===== Physical/Chemical Properties =====

Boiling Pt:B.P. Text:200-270F
 Spec Gravity:1.79
 Evaporation Rate & Reference:(BU AC=1): <1
 Solubility in Water:COMPLETE
 Appearance and Odor:CLEAR COLORLESS W/SLIGHT AMMONIA ODOR.
 Percent Volatiles by Volume:40

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES
 EPOXY RESINS, ACIDS
 Stability Condition to Avoid:HEAT, OPEN FLAME, ELECTRICAL SPARKS, HOT
 SURFACES & OTHER IGNITION SOURCES.
 Hazardous Decomposition Products:CO, CO2, OXIDES OF NITROGEN.

===== Disposal Considerations =====

Waste Disposal Methods:INCINERATE IN FURNACE/BURY IN LANDFILL IN

SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: **PREMIUM PLUS® Drywall Primer & Sealer No. 73**
 Product Code: 73
 MSDS Manufacturer Number: 73
 Manufacturer Name: BEHR Process Corporation
 Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
 General Phone Number: (714) 545-7101
 General Fax Number: (714) 241-1002
 Customer Service Phone Number: (800) 854-0133 ext. 2
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
 Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
 MSDS Creation Date: June 26, 2006
 MSDS Revision Date: April 05, 2013
 (M)SDS Format:



HMIS	
Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Calcium carbonate (limestone)	1317-65-3	10 - 30 by weight

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview: Irritant.

Potential Health Effects:

Eye: May cause irritation.

Skin: May cause irritation.

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause vomiting.

Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.

Signs/Symptoms: Overexposure may cause headaches and dizziness.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact: Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Other First Aid: Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point: No Data

Lower Flammable/Explosive Limit: Not applicable.

Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA Ratings:

NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Color:	White
Boiling Point:	No Data
Melting Point:	No Data
Density:	10 - 12 Lbs./gal.
Vapor Density:	Greater than 1 (Air = 1).
pH:	8.5 to 9.5
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	No Data
VOC Content:	Material VOC: 10 gm/l (Includes Water) Coating VOC.: 43 gm/l (Excludes Water)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 : TOXICOLOGICAL INFORMATION

Calcium carbonate (limestone):

RTECS Number: EV9580000

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

SECTION 14 : TRANSPORT INFORMATION

DOT UN Number:	No Data
DOT Hazard Class:	No Data

SECTION 15 : REGULATORY INFORMATION

California PROP 65: WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

Calcium carbonate (limestone):

TSCA Inventory Status:	Listed
State Regulations:	Listed in the Pennsylvania State Hazardous Substances List.

SECTION 16 : ADDITIONAL INFORMATION

MSDS Creation Date:	June 26, 2006
MSDS Revision Date:	April 05, 2013
MSDS Revision Notes:	Name change.
MSDS Author:	Actio Corporation
Disclaimer:	This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.
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SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: Premium Plus® All-In-One Primer & Sealer No. 75
Product Code: 75
MSDS Manufacturer Number: 75
Manufacturer Name: BEHR Process Corporation
Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
General Phone Number: (714) 545-7101
General Fax Number: (714) 241-1002
Customer Service Phone Number: (800) 854-0133 ext. 2
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
MSDS Creation Date: June 26, 2006
MSDS Revision Date: October 15, 2013

NFPA

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HMIS

Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	1

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Nepheline Syenite	37244-96-5	5 - 10 by weight
Titanium dioxide	13463-67-7	10 - 30 by weight
Limestone	1317-65-3	10 - 30 by weight

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview: Irritant.
Potential Health Effects:
Eye: May cause irritation.
Skin: May cause irritation.
Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.
Ingestion: May be harmful if swallowed. May cause vomiting.
Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.
Signs/Symptoms: Overexposure may cause headaches and dizziness.
Target Organs: Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms

of overexposure persists.

Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	No Data
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
<u>NFPA Ratings:</u>	
NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

Titanium dioxide :

Guideline ACGIH:	TLV-TWA: 10 mg/m3
Guideline OSHA:	OSHA-TWA: 15 mg/m3

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Boiling Point:	No Data
Melting Point:	No Data
Density:	10 - 12 Lbs./gal.
Vapor Density:	Greater than 1 (Air = 1).
pH:	No Data
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	No Data
VOC Content:	Material VOC: 1 gm/l (Includes Water) Coating VOC.: 3 gm/l (Excludes Water)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 : TOXICOLOGICAL INFORMATION

Nepheline Syenite :

RTECS Number: QP9365000

Titanium dioxide :

RTECS Number: XR2275000

Skin: Administration onto the skin - Human Standard Draize test.: 300 ug/3D (Intermittent) (RTECS)

Limestone :

RTECS Number: EV9580000

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 : TRANSPORT INFORMATION

DOT UN Number:	No Data
DOT Hazard Class:	No Data

SECTION 15 : REGULATORY INFORMATION

Nepheline Syenite :

TSCA Inventory Status:	Not listed
Canada DSL:	Listed

Titanium dioxide :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the New Jersey State Right to Know List. Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed

Limestone :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the Pennsylvania State Hazardous Substances List.

SECTION 16 : ADDITIONAL INFORMATION

MSDS Creation Date:	June 26, 2006
MSDS Revision Date:	October 15, 2013
MSDS Revision Notes:	Quarterly formula update
MSDS Author:	Actio Corporation

Disclaimer:	This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.
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SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product Name: **Protector & Waterproofer No. 980**
 Product Code: 980
 SDS Manufacturer Number: 980
 Manufacturer Name: BEHR Process Corporation
 Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
 General Phone Number: (714) 545-7101
 General Fax Number: (714) 241-1002
 Customer Service Phone Number: (800) 854-0133 ext. 2
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
 Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
 SDS Creation Date: June 26, 2006
 SDS Revision Date: April 30, 2015
 (M)SDS Format:

SECTION 2 : HAZARD(S) IDENTIFICATION

GHS Pictograms:



Signal Word: Warning.

GHS Class: Eye Irritant, Category 2.
 Skin Irritant, Category 2.

Hazard Statements: Causes eye and skin irritation.

Precautionary Statements: Wear protective clothing, gloves, eye, and face protection.
 Do not eat, drink or smoke when using this product.
 Wash hands thoroughly after handling.
 Take off contaminated clothing and wash it before reuse.
 Dispose of unused contents, container, and other contaminated wastes in accordance with local, state, federal, and provincial regulations.
If in eyes: Rinse cautiously with water for several minutes and remove contacts if present and easy to do. Continue rinsing and get medical attention if eye irritation persists.
If on skin: Wash with plenty of soap and water.
If swallowed: Rinse mouth and get medical attention if you feel unwell.

Emergency Overview: Irritant.

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

Eye: Causes eye irritation.

Skin: Causes skin irritation.

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause vomiting.

Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.

Signs/Symptoms: Overexposure may cause headaches and dizziness.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Octyl triethoxy silane	35435-21-3	5 - 10 by weight	

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of

the eyes by separating the eyelids with fingers. Remove contacts if present and easy to do. Continue rinsing. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	None.
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
<u>NFPA Ratings:</u>	
NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Methods for containment:	Contain spills with an inert absorbent material such as soil or sand. Prevent from spreading by covering, diking or other means. Provide ventilation.
Methods for cleanup:	Clean up spills immediately observing precautions in the protective equipment section. Place into a suitable container for disposal. Provide ventilation. After removal, flush spill area with soap and water to remove trace residue.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
PPE Pictograms:	



EXPOSURE GUIDELINES

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State:	Liquid.
Color:	opaque.

Odor:	Slight.
Odor Threshold:	Not applicable.
Boiling Point:	>99°F (>37°C)
Melting Point:	Not applicable.
Density:	8.27
Solubility:	Not applicable.
Vapor Density:	Not applicable.
Vapor Pressure:	Not applicable.
Evaporation Rate:	Not applicable.
pH:	7 - 10
Viscosity:	50-140
Coefficient of Water/Oil Distribution:	Not applicable.
Flammability:	Not applicable.
Flash Point:	None.
VOC Content:	198

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 : TOXICOLOGICAL INFORMATION

Eye:	No Data
Skin:	No Data
Inhalation:	No Data
Ingestion:	No Data

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Not restricted as a dangerous good.
DOT UN Number:	Not restricted as a dangerous good.
IATA Shipping Name:	Not restricted as a dangerous good.
IATA UN Number:	Not restricted as a dangerous good.
Canadian Shipping Name:	Not restricted as a dangerous good.
Canadian UN Number:	Not restricted as a dangerous good.
IMDG UN Number :	Not restricted as a dangerous good.
IMDG Shipping Name :	Not restricted as a dangerous good.
ADR UN Number:	Not restricted as a dangerous good.
ADR Shipping Name :	Not restricted as a dangerous good.

SECTION 15 : REGULATORY INFORMATION

TSCA Inventory Status:	No Data
Canada DSL:	No Data
<u>Octyl triethoxy silane :</u>	
TSCA Inventory Status:	Listed
Canada DSL:	Listed

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard:	1
HMIS Fire Hazard:	1
HMIS Reactivity:	0

SDS Creation Date:	June 26, 2006
SDS Revision Date:	April 30, 2015
MSDS Revision Notes:	Quarterly formula update
SDS Format:	
MSDS Author:	Actio Corporation

Disclaimer: This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.

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SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: Premium Plus® Interior Flat Enamel Ultra Pure White® No. 1850
Product Code: 1850
SDS Manufacturer Number: 1850
Manufacturer Name: BEHR Process Corporation
Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
General Phone Number: (714) 545-7101
General Fax Number: (714) 241-1002
Customer Service Phone Number: (800) 854-0133 ext. 2
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)



HMIS	
Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Aluminum hydroxide	21645-51-2	1 - 5 by weight
P(BA/MMA)	25852-37-3	10 - 30 by weight
Silica, crystalline - cristobalite	14464-46-1	1 - 5 by weight
Nepheline Syenite	37244-96-5	10 - 30 by weight
Titanium dioxide	13463-67-7	10 - 30 by weight
Silica, amorphous, precipitated and gel	112926-00-8	1 - 5 by weight

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview: Irritant.
Potential Health Effects:
Eye: May cause irritation.
Skin: May cause irritation.
Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.
Ingestion: May be harmful if swallowed. May cause vomiting.
Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.
Signs/Symptoms: Overexposure may cause headaches and dizziness.
Target Organs: Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact: Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	No Data
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
NFPA Ratings:	
NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Use proper personal protective equipment as listed in Section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing. Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

Silica, crystalline - cristobalite :

Guideline ACGIH:	TLV-TWA: 0.05 mg/m ³ (Respirable)
Guideline OSHA:	OSHA-TWA: One half the Quartz PEL [30 mg/m ³]/{% SiO ₂ } + 2]

Titanium dioxide :

Guideline ACGIH:	TLV-TWA: 10 mg/m ³
Guideline OSHA:	OSHA-TWA: 15 mg/m ³

Silica, amorphous, precipitated and gel :

Guideline ACGIH:	TLV-TWA: 10 mg/m ³
Guideline OSHA:	OSHA-TWA: 20 mg/m ³

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Color:	White
Boiling Point:	No Data
Melting Point:	No Data
Density:	10 - 12 Lbs./gal.
Vapor Density:	Greater than 1 (Air = 1).
Vapor Pressure:	No information.

pH:	8.5 to 9.5
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	No Data
VOC Content:	Material VOC: 2 gm/l (Includes Water) Coating VOC.: 3 gm/l (Excludes Water)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.
Special Decomposition Products:	Incomplete combustion may produce carbon monoxide and other toxic gases.

SECTION 11 : TOXICOLOGICAL INFORMATION

Aluminum hydroxide :

RTECS Number: BD0940000

P(BA/MMA) :

RTECS Number: UD3428000

Silica, crystalline - cristobalite :

RTECS Number: VV7325000

Carcinogenicity: IARC: Group 1: Carcinogenic to humans. NTP: Reasonably anticipated to be a human carcinogen.

Nepheline Syenite :

RTECS Number: QP9365000

Titanium dioxide :

RTECS Number: XR2275000

Skin: Administration onto the skin - Human Standard Draize test.: 300 ug/3D (Intermittent) (RTECS)

Carcinogenicity: IARC: Group 2B: Possibly carcinogenic to humans.

Silica, amorphous, precipitated and gel :

RTECS Number: VV7315000

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 : TRANSPORT INFORMATION

DOT UN Number:	No Data
DOT Hazard Class:	No Data

SECTION 15 : REGULATORY INFORMATION

Aluminum hydroxide :

TSCA Inventory Status: Listed

Canada DSL: Listed

P(BA/MMA) :

TSCA Inventory Status:	Listed
Canada DSL:	Listed
<u>Silica, crystalline - cristobalite :</u>	
TSCA Inventory Status:	Listed
State Regulations:	Listed in the New Jersey State Right to Know List. Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed
<u>Nepheline Syenite :</u>	
TSCA Inventory Status:	Not listed
Canada DSL:	Listed
<u>Titanium dioxide :</u>	
TSCA Inventory Status:	Listed
State Regulations:	Listed in the New Jersey State Right to Know List. Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed
<u>Silica, amorphous, precipitated and gel :</u>	
TSCA Inventory Status:	Not listed
Canada DSL:	Listed

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard:	1
HMIS Fire Hazard:	1
HMIS Reactivity:	0
HMIS Other:	x

SDS Creation Date:	January 30, 2007
SDS Revision Date:	October 15, 2013
MSDS Revision Notes:	"Quarterly formula update"
SDS Format:	
MSDS Author:	Actio Corporation

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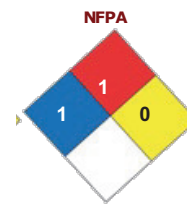
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SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: **BEHR® Premium Plus Interior Flat Enamel Deep Base No. 1853**
 Product Code: 1853
 MSDS Manufacturer Number: 1853
 Manufacturer Name: BEHR Process Corporation
 Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
 General Phone Number: (714) 545-7101
 General Fax Number: (714) 241-1002
 Customer Service Phone Number: (800) 854-0133 ext. 2
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
 Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
 MSDS Creation Date: January 30, 2007
 MSDS Revision Date: September 30, 2010
 MSDS Format: According to ANSI Z400.1-2004



HMIS	
Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	

* Chronic Health Effects

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Hydrophobed polyethylene glycol	No data	1 - 5 by weight
Proprietary	NJTS-50761-NLD	10 - 30 by weight
Non hazardous ingredient(s)	Not applicable	30 - 60 by weight
Nepheline Syenite	37244-96-5	10 - 30 by weight
Ethylene glycol	107-21-1	1 - 5 by weight

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview: Irritant.

Potential Health Effects:

Eye: May cause irritation.

Skin: May cause irritation.

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause vomiting.

Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.

Signs/Symptoms: Overexposure may cause headaches and dizziness.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 4 - FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact: Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Other First Aid: Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point:	No Data
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA Ratings:

NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

SECTION 7 - HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing. Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

Ethylene glycol :

Guideline ACGIH:	TLV-STEL: C 100 mg/m3 (Aerosol only)
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SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Color:	White
Boiling Point:	No Data
Melting Point:	No Data
Density:	10 - 12 Lbs./gal.
Vapor Density:	Greater than 1 (Air = 1).
Vapor Pressure:	Greater than 1 (Air = 1).
pH:	8.5 to 9.5
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	No Data
VOC Content:	Material VOC: 17 gm/l (Includes Water) Coating VOC.: 41 gm/l (Excludes Water)
	Note - The addition of colorant may add VOCs.

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.
Special Decomposition Products:	Incomplete combustion may produce carbon monoxide and other toxic gases.

SECTION 11 - TOXICOLOGICAL INFORMATION

Ethylene glycol :

RTECS Number:	KW2975000
Eye:	Eye - Rabbit; Standard Draize Test. : 500 mg/24H; mild. Eye - Rabbit; Standard Draize Test. : 1440 mg/6H; Moderate. (RTECS)
Skin:	Skin - Rabbit; Open irritation : 555 mg; mild. (RTECS)
Inhalation:	Inhalation - Rat LC: >200 mg/m3/4H; Details of toxic effects not reported other than lethal dose value. Inhalation - Mouse LC: >200 mg/m3/2H; Details of toxic effects not reported other than lethal dose value. (RTECS)
Ingestion:	Ingestion - Rat LD50: 4700 mg/kg; Details of toxic effects not reported other than lethal dose value.. (RTECS)

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 - TRANSPORT INFORMATION

DOT UN Number:	No Data
DOT Hazard Class:	No Data

SECTION 15 - REGULATORY INFORMATION

California PROP 65:	WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.
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Nepheline Syenite :

TSCA Inventory Status: Not listed

Canada DSL: Listed

Ethylene glycol :

TSCA Inventory Status: Listed

State Regulations: Listed in the New Jersey State Right to Know List.
Listed in the Pennsylvania State Hazardous Substances List.

Canada DSL: Listed

SECTION 16 - ADDITIONAL INFORMATION

HMIS Health Hazard: 1

HMIS Fire Hazard: 1

HMIS Reactivity: 0

HMIS Other: x

MSDS Creation Date: January 30, 2007

MSDS Revision Date: September 30, 2010

MSDS Revision Notes: Quarterly formula update

MSDS Author: Actio Corporation

Disclaimer: This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.

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SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: **PREMIUM PLUS ULTRA® Interior Eggshell Enamel Ultra Pure White Base No. 2750**

Product Code: 2750

MSDS Manufacturer Number: 2750

Manufacturer Name: BEHR Process Corporation

Address: 3400 W. Segerstrom Avenue
Santa Ana, CA 92704

General Phone Number: (714) 545-7101

General Fax Number: (714) 241-1002

Customer Service Phone Number: (800) 854-0133 ext. 2

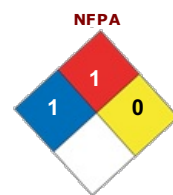
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300

Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)

MSDS Creation Date: January 30, 2007

MSDS Revision Date: January 13, 2013

(M)SDS Format:



HMIS	
Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Anhydrous aluminum silicate	66402-68-4	1 - 5 by weight
Aluminum hydroxide	21645-51-2	1 - 5 by weight
Nepheline Syenite	37244-96-5	5 - 10 by weight
Acrylic polymer(s)	No Data	10 - 30 by weight
Styrene/acrylic copolymer	No Data	1 - 5 by weight
Silica, amorphous, precipitated and gel	112926-00-8	1 - 5 by weight
Titanium dioxide	13463-67-7	10 - 30 by weight
Water	7732-18-5	30 - 60 by weight
P(BA/MMA)	25852-37-3	5 - 10 by weight

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview: Irritant.

Potential Health Effects:

Eye: May cause irritation.

Skin: May cause irritation.

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause vomiting.

Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.

Signs/Symptoms: Overexposure may cause headaches and dizziness.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact: Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Other First Aid:	Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.
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SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	No Data
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
<u>NFPA Ratings:</u>	
NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing. Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

Silica, amorphous, precipitated and gel :

Guideline ACGIH:	TLV-TWA: 10 mg/m ³
Guideline OSHA:	OSHA-TWA: 20 mg/m ³

Titanium dioxide :

Guideline ACGIH:	TLV-TWA: 10 mg/m ³
Guideline OSHA:	OSHA-TWA: 15 mg/m ³

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Color:	White
Boiling Point:	No Data

Melting Point:	No Data
Density:	10 - 12 Lbs./gal.
Vapor Density:	Greater than 1 (Air = 1).
Vapor Pressure:	Greater than 1 (Air = 1).
pH:	8.5 to 9.5
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	No Data
VOC Content:	Material VOC: 21 gm/l (Includes Water) Coating VOC.: 47 gm/l (Excludes Water)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.
Special Decomposition Products:	Incomplete combustion may produce carbon monoxide and other toxic gases.

SECTION 11 : TOXICOLOGICAL INFORMATION

Aluminum hydroxide :

RTECS Number: BD0940000

Nepheline Syenite :

RTECS Number: QP9365000

Silica, amorphous, precipitated and gel :

RTECS Number: VV7315000

Titanium dioxide :

RTECS Number: XR2275000

Skin: Administration onto the skin - Human Standard Draize test.: 300 ug/3D (Intermittent) (RTECS)

Carcinogenicity: IARC: Group 2B: Possibly carcinogenic to humans.

P(BA/MMA) :

RTECS Number: UD3428000

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 : TRANSPORT INFORMATION

DOT UN Number:	No Data
DOT Hazard Class:	No Data

SECTION 15 : REGULATORY INFORMATION

California PROP 65:	WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.
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Anhydrous aluminum silicate :

TSCA Inventory Status: Listed

Canada DSL:	Listed
<u>Aluminum hydroxide :</u>	
TSCA Inventory Status:	Listed
Canada DSL:	Listed
<u>Nepheline Syenite :</u>	
TSCA Inventory Status:	Not listed
Canada DSL:	Listed
<u>Silica, amorphous, precipitated and gel :</u>	
TSCA Inventory Status:	Not listed
Canada DSL:	Listed
<u>Titanium dioxide :</u>	
TSCA Inventory Status:	Listed
State Regulations:	Listed in the New Jersey State Right to Know List. Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed
<u>P(BA/MMA) :</u>	
TSCA Inventory Status:	Listed
Canada DSL:	Listed

SECTION 16 : ADDITIONAL INFORMATION

MSDS Creation Date:	January 30, 2007
MSDS Revision Date:	January 13, 2013
MSDS Revision Notes:	Quarterly formula update
MSDS Author:	Actio Corporation
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SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product Name: PREMIUM PLUS ULTRA® Interior Eggshell Enamel Deep Base No. 2753
Product Code: 2753
SDS Manufacturer Number: 2753
Manufacturer Name: BEHR Process Corporation
Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
General Phone Number: (714) 545-7101
General Fax Number: (714) 241-1002
Customer Service Phone Number: (800) 854-0133 ext. 2
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
SDS Creation Date: January 30, 2007
SDS Revision Date: April 30, 2015
(M)SDS Format:

SECTION 2 : HAZARD(S) IDENTIFICATION

GHS Pictograms:



Signal Word: Warning.

GHS Class: Eye Irritant, Category 2.
Skin Irritant, Category 2.

Hazard Statements: Causes eye and skin irritation.

Precautionary Statements: Wear protective clothing, gloves, eye, and face protection.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Take off contaminated clothing and wash it before reuse.
Dispose of unused contents, container, and other contaminated wastes in accordance with local, state, federal, and provincial regulations.
If in eyes: Rinse cautiously with water for several minutes and remove contacts if present and easy to do. Continue rinsing and get medical attention if eye irritation persists.
If on skin: Wash with plenty of soap and water.
If swallowed: Rinse mouth and get medical attention if you feel unwell.

Emergency Overview: Irritant.

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

Eye: Causes eye irritation.

Skin: Causes skin irritation.

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause vomiting.

Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.

Signs/Symptoms: Overexposure may cause headaches and dizziness.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
2-ethylhexyl benzoate	5444-75-7	1 - 5 by weight	
Anhydrous aluminum silicate	66402-68-4	5 - 10 by weight	
Clay (kaolin)	1332-58-7	1 - 5 by weight	
Nepheline Syenite	37244-96-5	1 - 5 by weight	
P(BA/MMA)	25852-37-3	5 - 10 by weight	

SECTION 4 : FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Remove contacts if present and easy to do. Continue rinsing. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	None.
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
NFPA Ratings:	
NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0


SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Use proper personal protective equipment as listed in Section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Methods for containment:	Contain spills with an inert absorbent material such as soil or sand. Prevent from spreading by covering, diking or other means. Provide ventilation.
Methods for cleanup:	Clean up spills immediately observing precautions in the protective equipment section. Place into a suitable container for disposal. Provide ventilation. After removal, flush spill area with soap and water to remove trace residue.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
PPE Pictograms:	

EXPOSURE GUIDELINES

Clay (kaolin):

Guideline ACGIH:

TLV-TWA: 2 mg/m³ (E,R)

Guideline OSHA:

PEL-TWA: 5 mg/m³ Respirable fraction (R)

PEL-TWA: 15 mg/m³ Total particulate/dust (T)

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State:	Liquid.
Color:	opaque.
Odor:	Slight.
Odor Threshold:	Not applicable.
Boiling Point:	>99°F (>37°C)
Melting Point:	Not applicable.
Density:	9.51
Solubility:	Not applicable.
Vapor Density:	Not applicable.
Vapor Pressure:	Not applicable.
Evaporation Rate:	Not applicable.
pH:	7 - 10
Viscosity:	50-140
Coefficient of Water/Oil Distribution:	Not applicable.
Flammability:	Not applicable.
Flash Point:	None.
VOC Content:	Material VOC: 17 gm/L(Includes Water) Coating VOC.:46 gm/L(Excludes Water)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 : TOXICOLOGICAL INFORMATION

Eye:	No relevant toxicological data for classification were found.
Skin:	No relevant toxicological data for classification were found.
Inhalation:	No relevant toxicological data for classification were found.
Ingestion:	No relevant toxicological data for classification were found.

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Not restricted as a dangerous good.
DOT UN Number:	Not restricted as a dangerous good.
IATA Shipping Name:	Not restricted as a dangerous good.

IATA UN Number:	Not restricted as a dangerous good.
Canadian Shipping Name:	Not restricted as a dangerous good.
Canadian UN Number:	Not restricted as a dangerous good.
IMDG UN Number :	Not restricted as a dangerous good.
IMDG Shipping Name :	Not restricted as a dangerous good.
ADR UN Number:	Not restricted as a dangerous good.
ADR Shipping Name :	Not restricted as a dangerous good.

SECTION 15 : REGULATORY INFORMATION

2-ethylhexyl benzoate :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Anhydrous aluminum silicate :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Clay (kaolin) :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Nepheline Syenite :

Canada DSL:	Listed
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P(BA/MMA) :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard:	1
HMIS Fire Hazard:	1
HMIS Reactivity:	0
HMIS Other:	x

SDS Creation Date:	January 30, 2007
SDS Revision Date:	April 30, 2015
MSDS Revision Notes:	"Quarterly formula update"
SDS Format:	
MSDS Author:	Actio Corporation

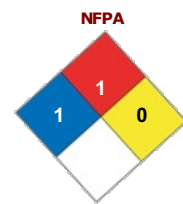
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SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: BEHR® Premium Plus Int Ultra Semi Gloss Enamel Paint UPW No. 3750
Product Code: 3750
MSDS Manufacturer Number: 3750
Manufacturer Name: BEHR Process Corporation
Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
General Phone Number: (714) 545-7101
General Fax Number: (714) 241-1002
Customer Service Phone Number: (800) 854-0133 ext. 2
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
MSDS Creation Date: January 30, 2007
MSDS Revision Date: March 31, 2011
MSDS Format: According to ANSI Z400.1-2004



HMIS	
Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	

* Chronic Health Effects

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Styrene/acrylic copolymer	No data	1 - 5 by weight
Amorphous silica	7631-86-9	1 - 5 by weight
Titanium dioxide	13463-67-7	10 - 30 by weight
Non hazardous ingredient(s)	Not applicable	60 - 100 by weight
Nepheline Syenite	37244-96-5	1 - 5 by weight
Aluminum hydroxide	21645-51-2	1 - 5 by weight
Undisclosed/Proprietary	No data	1 - 5 by weight

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview: Irritant.
Potential Health Effects:
Eye: May cause irritation.
Skin: May cause irritation.
Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.
Ingestion: May be harmful if swallowed. May cause vomiting.
Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.
Signs/Symptoms: Overexposure may cause headaches and dizziness.
Target Organs: Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 4 - FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact: Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Other First Aid: Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: No Data

Lower Flammable/Explosive Limit: Not applicable.

Upper Flammable/Explosive Limit: Not applicable.

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.

Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA Ratings:

NFPA Health: 1

NFPA Flammability: 1

NFPA Reactivity: 0

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personnel Precautions: Use proper personal protective equipment as listed in section 8.

Environmental Precautions: Avoid runoff into storm sewers, ditches, and waterways.

Spill Cleanup Measures: Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

SECTION 7 - HANDLING and STORAGE

Handling: Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.

Storage: Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.

Hygiene Practices: Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Eye/Face Protection: Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.

Skin Protection Description: Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing. Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data.

Respiratory Protection: A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Other Protective: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

Titanium dioxide :

Guideline ACGIH: TLV-TWA: 10 mg/m3

Guideline OSHA: OSHA-TWA: 15 mg/m3

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Color:	White
Boiling Point:	No Data
Melting Point:	No Data
Density:	9 - 11 Lbs./gal.
Vapor Density:	Greater than 1 (Air = 1).
Vapor Pressure:	Greater than 1 (Air = 1).
pH:	8.5 to 9.5
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	No Data
VOC Content:	Material VOC: 18 gm/l (Includes Water) Coating VOC.: 47 gm/l (Excludes Water)

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.
Special Decomposition Products:	Incomplete combustion may produce carbon monoxide and other toxic gases.

SECTION 11 - TOXICOLOGICAL INFORMATION**Amorphous silica :**

RTECS Number:	EU8655000
Eye:	Eye - Rabbit; Standard Draize Test. : 25 mg/24H; mild. (RTECS)
Inhalation:	Inhalation - Rat LCLo: 2190 mg/m3/4H; Lungs, Thorax, or Respiration - dyspnea (RTECS)
Ingestion:	Ingestion - Rat LDLo: 5 gm/kg; Nutritional and Gross Metabolic - other changes (RTECS)

Titanium dioxide :

RTECS Number:	XR2275000
Skin:	Skin - Rabbit; Standard Draize Test. : 300 ug/3D; (Intermittent) mild. (RTECS)
Ingestion:	Ingestion - Rat TDLo: 60 gm/kg; Gastrointestinal - hypermotility, diarrhea Gastrointestinal - other changes. (RTECS)

Aluminum hydroxide :

RTECS Number:	BD0940000
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SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 - TRANSPORT INFORMATION

DOT UN Number:	No Data
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SECTION 15 - REGULATORY INFORMATION

California PROP 65: WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

Amorphous silica :

TSCA Inventory Status: Listed

State Regulations: Listed in the Pennsylvania State Hazardous Substances List.

Canada DSL: Listed

Titanium dioxide :

TSCA Inventory Status: Listed

State Regulations: Listed in the New Jersey State Right to Know List.
Listed in the Pennsylvania State Hazardous Substances List.

Canada DSL: Listed

Nepheline Syenite :

TSCA Inventory Status: Not listed

Canada DSL: Listed

Aluminum hydroxide :

TSCA Inventory Status: Listed

Canada DSL: Listed

SECTION 16 - ADDITIONAL INFORMATION

HMIS Health Hazard: 1

HMIS Fire Hazard: 1

HMIS Reactivity: 0

HMIS Other: x

MSDS Creation Date: January 30, 2007

MSDS Revision Date: March 31, 2011

MSDS Revision Notes: Quarterly formula update

MSDS Author: Actio Corporation

Disclaimer: This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.

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View (M)SDS Section : **1** **2** **3** **4** **5** **6** **7** **8** **9** **10** **11** **12** **13** **14** **15** **16**

SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Premium Solid Weatherproofing Wood Stain Accent Base No. 5016**

Product Code: 5016

MSDS Manufacturer Number: 5016

Manufacturer Name: BEHR Process Corporation

Address: 3400 W. Segerstrom Avenue
Santa Ana, CA 92704

General Phone Number: (714) 545-7101

General Fax Number: (714) 241-1002

Customer Service Phone Number: (800) 854-0133 ext. 2

CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300

Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)

MSDS Creation Date: November 15, 2006

MSDS Revision Date: September 30, 2011

(M)SDS Format: According to ANSI Z400.1-2004

NFPA

1 1 0

HMIS

Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
2,2,4-Trimethyl-1,3-Pentanediol Monoisobutyrate	25265-77-4	1 - 5 by weight
Nepheline Syenite	37244-96-5	10 - 30 by weight
Water	7732-18-5	30 - 60 by weight
Acrylic polymer	No Data	10 - 30 by weight
Titanium dioxide	13463-67-7	1 - 5 by weight
Proprietary	No Data	1 - 5 by weight

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview: Irritant.

Potential Health Effects:

Eye: May cause irritation.

Skin: May cause irritation.

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause vomiting.

Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.

Signs/Symptoms: Overexposure may cause headaches and dizziness.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 4 : FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
Other First Aid:	Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	No Data
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
<u>NFPA Ratings:</u>	
NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing. Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data.

Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

Titanium dioxide :

Guideline ACGIH:	TLV-TWA: 10 mg/m3
Guideline OSHA:	OSHA-TWA: 15 mg/m3

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Boiling Point:	No Data
Melting Point:	No Data
Density:	10 - 12 Lbs./gal.
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	No Data
VOC Content:	Material VOC: 24 gm/l (Includes Water) Coating VOC.: 58 gm/l (Excludes Water)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.
Special Decomposition Products:	Incomplete combustion may produce carbon monoxide and other toxic gases.

SECTION 11 : TOXICOLOGICAL INFORMATION

2,2,4-Trimethyl-1,3-Pentanediol Monoisobutyrate :

RTECS Number:	UF6000000
Ingestion:	Oral - Rat LD50: 3200 mg/kg [Details of toxic effects not reported other than lethal dose value] Oral - Mouse LD50: 3200 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Nepheline Syenite :

RTECS Number:	QP9365000
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Titanium dioxide :

RTECS Number:	XR2275000
Skin:	Administration onto the skin - Human Standard Draize test.: 300 ug/3D (Intermittent) (RTECS)
Ingestion:	Ingestion - Rat TDLo: 60 gm/kg; Gastrointestinal - Hypermotility, diarrhea Gastrointestinal - Other changes. (RTECS)
Carcinogenicity:	IARC: Group 2B: Possibly carcinogenic to humans.

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

SECTION 14 : TRANSPORT INFORMATION

DOT UN Number: No Data
DOT Hazard Class: No Data

SECTION 15 : REGULATORY INFORMATION

2,2,4-Trimethyl-1,3-Pentanediol Monoisobutyrate :

TSCA Inventory Status: Listed
Canada DSL: Listed

Nepheline Syenite :

TSCA Inventory Status: Not listed
Canada DSL: Listed

Titanium dioxide :

TSCA Inventory Status: Listed
State Regulations: Listed in the New Jersey State Right to Know List.
Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL: Listed

SECTION 16 : ADDITIONAL INFORMATION

MSDS Creation Date: November 15, 2006
MSDS Revision Date: September 30, 2011
MSDS Revision Notes: Name change.
MSDS Author: Actio Corporation

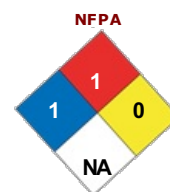
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SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: PREMIUM PLUS® Exterior Semi-Gloss Enamel Deep Base No. 5340
Product Code: 5340
MSDS Manufacturer Number: 5340
Manufacturer Name: BEHR Process Corporation
Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
General Phone Number: (714) 545-7101
General Fax Number: (714) 241-1002
Customer Service Phone Number: (800) 854-0133 ext. 2
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
MSDS Creation Date: June 26, 2006
MSDS Revision Date: April 05, 2013
(M)SDS Format:



HMIS	
Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Clay (kaolin)	1332-58-7	1 - 5 by weight
P(BA/MMA)	25852-37-3	10 - 30 by weight
2-ethylhexyl benzoate	5444-75-7	1 - 5 by weight

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview: Irritant.
Potential Health Effects:
Eye: May cause irritation.
Skin: May cause irritation.
Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.
Ingestion: May be harmful if swallowed. May cause vomiting.
Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.
Signs/Symptoms: Overexposure may cause headaches and dizziness.
Target Organs: Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact: Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
Other First Aid: Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point: No Data

Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA Ratings:

NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0
NFPA Other:	NA

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

Clay (kaolin):

Guideline ACGIH:	TLV-TWA: 2 mg/m3 (Respirable)
Guideline OSHA:	OSHA-TWA: 5 mg/m3 Respirable

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Boiling Point:	No Data
Melting Point:	No Data
Density:	8 - 10 Lbs./gal.
Vapor Density:	Greater than 1 (Air = 1).
pH:	No Data
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	No Data
VOC Content:	Material VOC: 16 gm/l (Includes Water) Coating VOC.: 47 gm/l (Excludes Water)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 : TOXICOLOGICAL INFORMATION

<u>Clay (kaolin) :</u>	
RTECS Number:	GF1670500
<u>P(BA/MMA) :</u>	
RTECS Number:	UD3428000

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 : TRANSPORT INFORMATION

DOT UN Number:	No Data
DOT Hazard Class:	No Data

SECTION 15 : REGULATORY INFORMATION

California PROP 65:	WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.
<u>Clay (kaolin) :</u>	
TSCA Inventory Status:	Listed
State Regulations:	Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed
<u>P(BA/MMA) :</u>	
TSCA Inventory Status:	Listed
Canada DSL:	Listed
<u>2-ethylhexyl benzoate :</u>	
TSCA Inventory Status:	Listed
Canada DSL:	Listed

SECTION 16 : ADDITIONAL INFORMATION

MSDS Creation Date:	June 26, 2006
MSDS Revision Date:	April 05, 2013
MSDS Revision Notes:	Quarterly formula update
MSDS Author:	Actio Corporation
Disclaimer:	This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and

the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.

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SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Premium Plus® Exterior Satin Enamel Deep Base No. 9340**

Product Code: 9340

MSDS Manufacturer Number: 9340

Manufacturer Name: BEHR Process Corporation

Address: 3400 W. Segerstrom Avenue
Santa Ana, CA 92704

General Phone Number: (714) 545-7101

General Fax Number: (714) 241-1002

Customer Service Phone Number: (800) 854-0133 ext. 2

CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300

Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)

MSDS Creation Date: June 26, 2006

MSDS Revision Date: August 31, 2012

(M)SDS Format: According to ANSI Z400.1-2004

HMIS

Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Nepheline Syenite	37244-96-5	10 - 30 by weight
2-ethylhexyl benzoate	5444-75-7	1 - 5 by weight
P(BA/MMA)	25852-37-3	10 - 30 by weight

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview: Irritant.

Potential Health Effects:

Eye: May cause irritation.

Skin: May cause irritation.

Inhalation:	Prolonged or excessive inhalation may cause respiratory tract irritation.
Ingestion:	May be harmful if swallowed. May cause vomiting.
Chronic Health Effects:	Prolonged or repeated contact may cause skin irritation.
Signs/Symptoms:	Overexposure may cause headaches and dizziness.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions:	None generally recognized.

SECTION 4 - FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
Other First Aid:	Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point:	No Data
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA Ratings:

NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

SECTION 7 - HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Boiling Point:	No Data
Melting Point:	No Data
Density:	8 - 10 Lbs./gal.
Vapor Density:	Greater than 1 (Air = 1).
pH:	8.5 to 9.5
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	No Data
VOC Content:	Material VOC: 18 gm/l (Includes Water) Coating VOC.: 50 gm/l (Excludes Water) The addition of colorant may add VOCs.

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 - TOXICOLOGICAL INFORMATION

Nepheline Syenite :

RTECS Number: QP9365000

P(BA/MMA) :

RTECS Number: UD3428000

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal:

Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

SECTION 14 - TRANSPORT INFORMATION

DOT UN Number:

No Data

DOT Hazard Class:

No Data

SECTION 15 - REGULATORY INFORMATION

California PROP 65:

WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

Nepheline Syenite :

TSCA Inventory Status:

Not listed

Canada DSL:

Listed

2-ethylhexyl benzoate :

TSCA Inventory Status:

Listed

Canada DSL:

Listed

P(BA/MMA) :

TSCA Inventory Status:

Listed

Canada DSL:

Listed

SECTION 16 - ADDITIONAL INFORMATION

MSDS Author:

Actio Corporation

Disclaimer:

This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet

is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.

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SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product Name: **Premium Plus Ultra® Exterior Satin Enamel Deep Base No. 9853**
 Product Code: 9853
 SDS Manufacturer Number: 9853
 Manufacturer Name: BEHR Process Corporation
 Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
 General Phone Number: (714) 545-7101
 General Fax Number: (714) 241-1002
 Customer Service Phone Number: (800) 854-0133 ext. 2
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
 Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
 SDS Creation Date: June 26, 2006
 SDS Revision Date: March 30, 2017
 (M)SDS Format:

SECTION 2 : HAZARD(S) IDENTIFICATION

GHS Pictograms:



Signal Word: Warning.

GHS Class: Eye Irritant, Category 2B.
 Skin Irritant, Category 2.

Hazard Statements: Causes eye and skin irritation.

Precautionary Statements: Wear protective clothing, gloves, eye, and face protection.
 Do not eat, drink or smoke when using this product.
 Wash hands thoroughly after handling.
 Take off contaminated clothing and wash it before reuse.
 Dispose of unused contents, container, and other contaminated wastes in accordance with local, state, federal, and provincial regulations.
If in eyes: Rinse cautiously with water for several minutes and remove contacts if present and easy to do. Continue rinsing and get medical attention if eye irritation persists.
If on skin: Wash with plenty of soap and water.
If swallowed: Rinse mouth and get medical attention if you feel unwell.

Emergency Overview: Irritant.

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

Eye: Causes eye irritation.

Skin: Causes skin irritation.

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause vomiting.

Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.

Signs/Symptoms: Overexposure may cause headaches and dizziness.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Nepheline Syenite	37244-96-5	10 - 30 by weight	

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of

the eyes by separating the eyelids with fingers. Remove contacts if present and easy to do. Continue rinsing. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	None.
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
<u>NFPA Ratings:</u>	
NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0


SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Use proper personal protective equipment as listed in Section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Methods for containment:	Contain spills with an inert absorbent material such as soil or sand. Prevent from spreading by covering, diking or other means. Provide ventilation.
Methods for cleanup:	Clean up spills immediately observing precautions in the protective equipment section. Place into a suitable container for disposal. Provide ventilation. After removal, flush spill area with soap and water to remove trace residue.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
PPE Pictograms:	

EXPOSURE GUIDELINES

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State:	Liquid.
Color:	opaque.

Odor:	Slight.
Odor Threshold:	Not applicable.
Boiling Point:	>99°F (>37°C)
Melting Point:	Not applicable.
Density:	9.27
Solubility:	Not applicable.
Vapor Density:	Not applicable.
Vapor Pressure:	Not applicable.
Evaporation Rate:	Not applicable.
pH:	7 - 10
Viscosity:	50-140
Coefficient of Water/Oil Distribution:	Not applicable.
Flammability:	Not applicable.
Flash Point:	None.
VOC Content:	36

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 : TOXICOLOGICAL INFORMATION

Eye:	No relevant toxicological data for classification were found.
Skin:	No relevant toxicological data for classification were found.
Inhalation:	No relevant toxicological data for classification were found.
Ingestion:	No relevant toxicological data for classification were found.

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Not restricted as a dangerous good.
DOT UN Number:	Not restricted as a dangerous good.
IATA Shipping Name:	Not restricted as a dangerous good.
IATA UN Number:	Not restricted as a dangerous good.
Canadian Shipping Name:	Not restricted as a dangerous good.
Canadian UN Number:	Not restricted as a dangerous good.
IMDG UN Number :	Not restricted as a dangerous good.
IMDG Shipping Name :	Not restricted as a dangerous good.
ADR UN Number:	Not restricted as a dangerous good.
ADR Shipping Name :	Not restricted as a dangerous good.

SECTION 15 : REGULATORY INFORMATION

Nepheline Syenite :

Canada DSL: Listed

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 1
HMIS Fire Hazard: 1
HMIS Reactivity: 0
HMIS Other: x

SDS Creation Date: June 26, 2006
SDS Revision Date: March 30, 2017
SDS Revision Notes: "Quarterly formula update"

SDS Format:

SDS Author: Actio Corporation

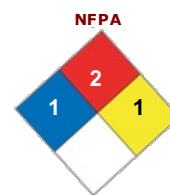
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SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Classic Oil Wood Stain - Mahogany**
 Product Code: B135
 MSDS Manufacturer Number: B135
 Manufacturer Name: BEHR Process Corporation
 Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
 General Phone Number: (714) 545-7101
 General Fax Number: (714) 241-1002
 Customer Service Phone Number: (800) 854-0133 ext. 2
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
 Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
 MSDS Revision Date: December 30, 2011
 (M)SDS Format:



HMIS	
Health Hazard	1
Fire Hazard	2
Reactivity	1
Personal Protection	x

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Undisclosed/Proprietary	No Data	5 - 10 by weight
Aliphatic Hydrocarbon Solvent	64742-88-7	1 - 5 by weight
Distillates (petroleum), hydrotreated light; Kerosine - unspecified	64742-47-8	60 - 100 by weight
Iron(III) oxide	1309-37-1	1 - 5 by weight
Linseed Oil	8001-26-1	1 - 5 by weight
Polymer/Solids	Proprietary	1 - 5 by weight

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview: Flammable. Irritant.

Potential Health Effects:

Eye: May cause irritation.

Skin: May cause irritation.

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: Harmful if swallowed. Ingestion can cause nausea, vomiting, diarrhea and gastrointestinal irritation.

Chronic Health Effects: Prolonged or repeated contact can result in defatting and drying of the skin, which may result in skin irritation and dermatitis (rash).
 Repeated or prolonged inhalation may cause toxic effects.

Signs/Symptoms: Overexposure can cause headaches, dizziness, nausea, and vomiting.

Target Organs: Eyes. Skin. Respiratory system. Digestive system. Central nervous system. Kidney.

Aggravation of Pre-Existing Conditions: May aggravate pre-existing respiratory disorders, allergy, eczema, or skin conditions.

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact: Immediately wash skin with soap and plenty of water.
 Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Other First Aid: Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

SECTION 5 : FIRE FIGHTING MEASURES

Flammable Properties:	Flammable liquid.
Flash Point:	104°F (40°C)
Flash Point Method:	TCC
Lower Flammable/Explosive Limit:	0.8
Upper Flammable/Explosive Limit:	6.7
Fire Fighting Instructions:	Flammable. Cool fire-exposed containers using water spray.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards:	Flammable liquid. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to a distant ignition source and flash back.

NFPA Ratings:

NFPA Health:	1
NFPA Flammability:	2
NFPA Reactivity:	1

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Remove all sources of ignition. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Collect spill with a non-sparking tool. Place into a suitable container for disposal.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing. Material will accumulate static charges which may cause an electrical spark (ignition source). Use proper grounding procedures.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Work Practices:	To reduce potential for static discharge, bond and ground containers when transferring material.
Special Handling Procedures:	Do not reuse containers without proper cleaning or reconditioning.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

Distillates (petroleum), hydrotreated light; Kerosine - unspecified :

Guideline ACGIH: TLV-TWA: 200 mg/m3 (Negligible aerosol exposures)

Iron(III) oxide :

Guideline ACGIH: TLV-TWA: 5 mg/m3

Guideline OSHA: OSHA-TWA: 10 mg/m3

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Boiling Point:	No Data
Melting Point:	No Data
Density:	6 - 8 Lbs./gal.
Vapor Density:	Greater than 1 (Air = 1).
pH:	No Data
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	104°F (40°C)
Flash Point Method:	TCC
VOC Content:	Material VOC: 669 gm/l (Includes Water) Coating VOC.: 669 gm/l (Excludes Water)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, ignition sources, and sparks. Incompatible materials. Freezing or temperatures below 0°C (32°F).
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 : TOXICOLOGICAL INFORMATION

Aliphatic Hydrocarbon Solvent :

RTECS Number: WJ8930000

Distillates (petroleum), hydrotreated light; Kerosine - unspecified :

RTECS Number: OA5504000

Iron(III) oxide :

RTECS Number: NO7400000

Linseed Oil :

RTECS Number: OI9690000

Skin: Skin - man Standard Draize test.: 300 mg/3D - [(Intermittent) Moderate] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Paint.
DOT UN Number:	UN1263
DOT Hazard Class:	3
DOT Packing Group:	III

SECTION 15 : REGULATORY INFORMATION

Aliphatic Hydrocarbon Solvent :

TSCA Inventory Status: Listed

Canada DSL: Listed

Distillates (petroleum), hydrotreated light; Kerosine - unspecified :

TSCA Inventory Status: Listed

Canada DSL: Listed

Iron(III) oxide :

TSCA Inventory Status: Listed

State Regulations: Listed in the New Jersey State Right to Know List.
Listed in the Pennsylvania State Hazardous Substances List.

Canada DSL: Listed

Linseed Oil :

TSCA Inventory Status: Listed

State Regulations: Listed in the Pennsylvania State Hazardous Substances List.

Canada DSL: Listed

SECTION 16 : ADDITIONAL INFORMATION

MSDS Revision Date: December 30, 2011

MSDS Revision Notes: Quarterly formula update

MSDS Author: Actio Corporation

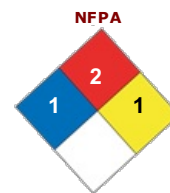
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SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Classic Oil Wood Stain - Dark Walnut**
 Product Code: B145
 MSDS Manufacturer Number: B145
 Manufacturer Name: BEHR Process Corporation
 Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
 General Phone Number: (714) 545-7101
 General Fax Number: (714) 241-1002
 Customer Service Phone Number: (800) 854-0133 ext. 2
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
 Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
 MSDS Revision Date: December 30, 2011
 (M)SDS Format:



HMIS	
Health Hazard	1
Fire Hazard	2
Reactivity	1
Personal Protection	x

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Undisclosed/Proprietary	No Data	10 - 30 by weight
Distillates (petroleum), hydrotreated light; Kerosine - unspecified	64742-47-8	60 - 100 by weight
Iron(III) oxide	1309-37-1	0.1 - 1 by weight
Linseed Oil	8001-26-1	1 - 5 by weight

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview: Flammable. Irritant.

Potential Health Effects:

Eye: May cause irritation.

Skin: May cause irritation.

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: Harmful if swallowed. Ingestion can cause nausea, vomiting, diarrhea and gastrointestinal irritation.

Chronic Health Effects: Prolonged or repeated contact can result in defatting and drying of the skin, which may result in skin irritation and dermatitis (rash). Repeated or prolonged inhalation may cause toxic effects.

Signs/Symptoms: Overexposure can cause headaches, dizziness, nausea, and vomiting.

Target Organs: Eyes. Skin. Respiratory system. Digestive system. Central nervous system. Kidney.

Aggravation of Pre-Existing Conditions: May aggravate pre-existing respiratory disorders, allergy, eczema, or skin conditions.

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact: Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Other First Aid: Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

SECTION 5 : FIRE FIGHTING MEASURES

Flammable Properties:	Flammable liquid.
Flash Point:	104°F (40°C)
Flash Point Method:	TCC
Lower Flammable/Explosive Limit:	0.8
Upper Flammable/Explosive Limit:	6.7
Fire Fighting Instructions:	Flammable. Cool fire-exposed containers using water spray.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards:	Flammable liquid. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to a distant ignition source and flash back.

NFPA Ratings:

NFPA Health:	1
NFPA Flammability:	2
NFPA Reactivity:	1

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Remove all sources of ignition. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Collect spill with a non-sparking tool. Place into a suitable container for disposal.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing. Material will accumulate static charges which may cause an electrical spark (ignition source). Use proper grounding procedures.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Work Practices:	To reduce potential for static discharge, bond and ground containers when transferring material.
Special Handling Procedures:	Do not reuse containers without proper cleaning or reconditioning.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

Distillates (petroleum), hydrotreated light; Kerosine - unspecified :

Guideline ACGIH: TLV-TWA: 200 mg/m3 (Negligible aerosol exposures)

Iron(III) oxide :

Guideline ACGIH: TLV-TWA: 5 mg/m3

Guideline OSHA: OSHA-TWA: 10 mg/m3

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Boiling Point:	No Data
Melting Point:	No Data
Density:	6 - 8 Lbs./gal.
Vapor Density:	Greater than 1 (Air = 1).
pH:	No Data
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	104°F (40°C)
Flash Point Method:	TCC
VOC Content:	Material VOC: 687 gm/l (Includes Water) Coating VOC.: 687 gm/l (Excludes Water)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, ignition sources, and sparks. Incompatible materials. Freezing or temperatures below 0°C (32°F).
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 : TOXICOLOGICAL INFORMATION

Distillates (petroleum), hydrotreated light; Kerosine - unspecified :

RTECS Number: OA5504000

Iron(III) oxide :

RTECS Number: NO7400000

Linseed Oil :

RTECS Number: OI9690000

Skin: Skin - man Standard Draize test.: 300 mg/3D - [(Intermittent) Moderate] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Paint.
DOT UN Number:	UN1263
DOT Hazard Class:	3
DOT Packing Group:	III

SECTION 15 : REGULATORY INFORMATION

Distillates (petroleum), hydrotreated light; Kerosine - unspecified :

TSCA Inventory Status: Listed

Canada DSL: Listed

Iron(III) oxide :

TSCA Inventory Status: Listed

State Regulations:	Listed in the New Jersey State Right to Know List. Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed
<u>Linseed Oil :</u>	
TSCA Inventory Status:	Listed
State Regulations:	Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed

SECTION 16 : ADDITIONAL INFORMATION

MSDS Revision Date:	December 30, 2011
MSDS Revision Notes:	Quarterly formula update
MSDS Author:	Actio Corporation
Disclaimer:	This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.
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SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product Name: **Protector & Waterproofer No. 980**
 Product Code: 980
 SDS Manufacturer Number: 980
 Manufacturer Name: BEHR Process Corporation
 Address: 3400 W. Segerstrom Avenue
 Santa Ana, CA 92704
 General Phone Number: (714) 545-7101
 General Fax Number: (714) 241-1002
 Customer Service Phone Number: (800) 854-0133 ext. 2
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
 Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
 SDS Creation Date: June 26, 2006
 SDS Revision Date: April 30, 2015
 (M)SDS Format:

SECTION 2 : HAZARD(S) IDENTIFICATION

GHS Pictograms:



Signal Word: Warning.

GHS Class: Eye Irritant, Category 2.
 Skin Irritant, Category 2.

Hazard Statements: Causes eye and skin irritation.

Precautionary Statements: Wear protective clothing, gloves, eye, and face protection.
 Do not eat, drink or smoke when using this product.
 Wash hands thoroughly after handling.
 Take off contaminated clothing and wash it before reuse.
 Dispose of unused contents, container, and other contaminated wastes in accordance with local, state, federal, and provincial regulations.
If in eyes: Rinse cautiously with water for several minutes and remove contacts if present and easy to do. Continue rinsing and get medical attention if eye irritation persists.
If on skin: Wash with plenty of soap and water.
If swallowed: Rinse mouth and get medical attention if you feel unwell.

Emergency Overview: Irritant.

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

Eye: Causes eye irritation.

Skin: Causes skin irritation.

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause vomiting.

Chronic Health Effects: Prolonged or repeated contact may cause skin irritation.

Signs/Symptoms: Overexposure may cause headaches and dizziness.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: None generally recognized.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Octyl triethoxy silane	35435-21-3	5 - 10 by weight	

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of

Product: Protector & Waterproofer No. 980 | Manufacturer: BEHR Process Corporation | Revision: 4/30/2015, Version: 0

the eyes by separating the eyelids with fingers. Remove contacts if present and easy to do. Continue rinsing. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	None.
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
<u>NFPA Ratings:</u>	
NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Methods for containment:	Contain spills with an inert absorbent material such as soil or sand. Prevent from spreading by covering, diking or other means. Provide ventilation.
Methods for cleanup:	Clean up spills immediately observing precautions in the protective equipment section. Place into a suitable container for disposal. Provide ventilation. After removal, flush spill area with soap and water to remove trace residue.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
PPE Pictograms:	



EXPOSURE GUIDELINES

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State:	Liquid.
Color:	opaque.

Odor:	Slight.
Odor Threshold:	Not applicable.
Boiling Point:	>99°F (>37°C)
Melting Point:	Not applicable.
Density:	8.27
Solubility:	Not applicable.
Vapor Density:	Not applicable.
Vapor Pressure:	Not applicable.
Evaporation Rate:	Not applicable.
pH:	7 - 10
Viscosity:	50-140
Coefficient of Water/Oil Distribution:	Not applicable.
Flammability:	Not applicable.
Flash Point:	None.
VOC Content:	198

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 : TOXICOLOGICAL INFORMATION

Eye:	No Data
Skin:	No Data
Inhalation:	No Data
Ingestion:	No Data

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Not restricted as a dangerous good.
DOT UN Number:	Not restricted as a dangerous good.
IATA Shipping Name:	Not restricted as a dangerous good.
IATA UN Number:	Not restricted as a dangerous good.
Canadian Shipping Name:	Not restricted as a dangerous good.
Canadian UN Number:	Not restricted as a dangerous good.
IMDG UN Number :	Not restricted as a dangerous good.
IMDG Shipping Name :	Not restricted as a dangerous good.
ADR UN Number:	Not restricted as a dangerous good.
ADR Shipping Name :	Not restricted as a dangerous good.

SECTION 15 : REGULATORY INFORMATION

TSCA Inventory Status:	No Data
Canada DSL:	No Data
<u>Octyl triethoxy silane :</u>	
TSCA Inventory Status:	Listed
Canada DSL:	Listed

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard:	1
HMIS Fire Hazard:	1
HMIS Reactivity:	0

SDS Creation Date:	June 26, 2006
SDS Revision Date:	April 30, 2015
MSDS Revision Notes:	Quarterly formula update
SDS Format:	
MSDS Author:	Actio Corporation

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View (M)SDS Section : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product Name: **BEHR PP Ultra Flat UPW - Sample**
Product Code: UL200
SDS Manufacturer Number: UL200
Manufacturer Name: BEHR Process Corporation
Address: 3400 W. Segerstrom Avenue
Santa Ana, CA 92704
General Phone Number: (714) 545-7101
General Fax Number: (714) 241-1002
Customer Service Phone Number: (800) 854-0133 ext. 2
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
SDS Creation Date: January 30, 2007
SDS Revision Date: April 30, 2015
(M)SDS Format: In accordance with 2012 OSHA Hazardous Communication Standard

SECTION 2 : HAZARD(S) IDENTIFICATION

GHS Pictograms:



Signal Word: Warning.

GHS Class: Eye Irritant, Category 2.
Skin Irritant, Category 2.

Hazard Statements: Causes eye and skin irritation.

Precautionary Statements: Wear protective clothing, gloves, eye, and face protection.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Take off contaminated clothing and wash it before reuse.
Dispose of unused contents, container, and other contaminated wastes in accordance with local, state, federal, and provincial regulations.
If in eyes: Rinse cautiously with water for several minutes and remove contacts if present and easy to do. Continue rinsing and get medical attention if eye irritation persists.
If on skin: Wash with plenty of soap and water.

If swallowed: Rinse mouth and get medical attention if you feel unwell.

Emergency Overview:	Irritant.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Causes eye irritation.
Skin:	Causes skin irritation.
Inhalation:	Prolonged or excessive inhalation may cause respiratory tract irritation.
Ingestion:	May be harmful if swallowed. May cause vomiting.
Chronic Health Effects:	Prolonged or repeated contact may cause skin irritation.
Signs/Symptoms:	Overexposure may cause headaches and dizziness.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions:	None generally recognized.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Titanium dioxide	13463-67-7	10 - 30 by weight	
Silica, crystalline - cristobalite	14464-46-1	1 - 5 by weight	
Silica, amorphous, precipitated and gel	112926-00-8	1 - 5 by weight	
Nepheline Syenite	37244-96-5	5 - 10 by weight	
Flux Calcined Diatomaceous Earth (DE)	68855-54-9	1 - 5 by weight	
Anhydrous aluminum silicate	66402-68-4	1 - 5 by weight	
P(BA/MMA)	25852-37-3	1 - 5 by weight	
Aluminum hydroxide	21645-51-2	1 - 5 by weight	

SECTION 4 : FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Remove contacts if present and easy to do. Continue rinsing. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	None.
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA Ratings:

NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Use proper personal protective equipment as listed in section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Methods for containment:	Contain spills with an inert absorbent material such as soil or sand. Prevent from spreading by covering, diking or other means. Provide ventilation.
Methods for cleanup:	Clean up spills immediately observing precautions in the protective equipment section. Place into a suitable container for disposal. Provide ventilation. After removal, flush spill area with soap and water to remove trace residue.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

PPE Pictograms:



EXPOSURE GUIDELINES

<u>Titanium dioxide :</u>	
Guideline ACGIH:	TLV-TWA: 10 mg/m3
<u>Silica, amorphous, precipitated and gel :</u>	
Guideline OSHA:	PEL-TWA: 20 mppcf

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State:	Liquid.
Color:	White
Odor:	Slight.
Odor Threshold:	Not applicable.
Boiling Point:	>99°F (>37°C)
Melting Point:	Not applicable.
Density:	11.46

Solubility:	Not applicable.
Vapor Density:	Not applicable.
Vapor Pressure:	Not applicable.
Evaporation Rate:	Not applicable.
pH:	7 - 10
Viscosity:	50-140
Coefficient of Water/Oil Distribution:	Not applicable.
Flammability:	Not applicable.
Flash Point:	None.
VOC Content:	Material VOC: 48 gm/L(Includes Water) Coating VOC.:22 gm/L(Excludes Water)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.

SECTION 11 : TOXICOLOGICAL INFORMATION

Toxicology:	No toxicology data was found for the product.
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SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure
-----------------	--

compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name: Not restricted as a dangerous good.

DOT UN Number: Not restricted as a dangerous good.

IATA Shipping Name: Not restricted as a dangerous good.

IATA UN Number: Not restricted as a dangerous good.

Canadian Shipping Name: Not restricted as a dangerous good.

Canadian UN Number: Not restricted as a dangerous good.

IMDG UN Number : Not restricted as a dangerous good.

IMDG Shipping Name : Not restricted as a dangerous good.

ADR UN Number: Not restricted as a dangerous good.

ADR Shipping Name : Not restricted as a dangerous good.

SECTION 15 : REGULATORY INFORMATION

Titanium dioxide :

TSCA Inventory Status: Listed

Canada DSL: Listed

Silica, crystalline - cristobalite :

TSCA Inventory Status: Listed

Canada DSL: Listed

Silica, amorphous, precipitated and gel :

Canada DSL: Listed

Nepheline Syenite :

Canada DSL: Listed

Flux Calcined Diatomaceous Earth (DE) :

TSCA Inventory Status: Listed

Canada DSL: Listed

Anhydrous aluminum silicate :

TSCA Inventory Status: Listed

Canada DSL: Listed

Aluminum hydroxide :

TSCA Inventory Status: Listed

Canada DSL: Listed

SECTION 16 : ADDITIONAL INFORMATION

HMIS Health Hazard: 1

HMIS Fire Hazard: 1

HMIS Reactivity: 0

HMIS Other: x

MSDS Creation Date: January 30, 2007

MSDS Revision Date: April 30, 2015

SDS Format: In accordance with 2012 OSHA Hazardous Communication Standard

MSDS Revision Notes: Quarterly formula update

MSDS Author: Actio Corporation

Disclaimer: This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.

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FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 102.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Benedict's Qualitative Solution

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin corrosion or irritation (Category 3). Causes mild skin irritation (H316).

Hazard class: Serious eye damage or irritation (Category 2B). Causes eye irritation (H320).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Sodium citrate dihydrate	6132-04-3	$\text{Na}_3\text{C}_6\text{H}_5\text{O}_7 \cdot 2\text{H}_2\text{O}$	294.10	16-20%
Sodium carbonate, anhydrous	497-19-8	Na_2CO_3	105.99	8-12%
Copper(II) sulfate, anhydrous	7758-98-7	CuSO_4	159.61	1-2%
Water	7732-18-5	H_2O	18.02	66-75%

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). If eye irritation persists: Get medical advice or attention (P337+P313).

If skin irritation occurs: Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Light blue liquid. Odorless.

pH: ~11

Used to test for reducing sugars.

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Eye and mild skin irritant.

ORL-RAT LD₅₀: 300 mg/kg (for CuSO₄)

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

This product contains one or more reported carcinogens or suspected carcinogens which are noted NTP, IARC, or OSHA-Z in the other limits

recommended column.

Note: This product contains pigments which may become a dust nuisance when removed by abrasive blasting, sanding, or grinding.

This product may contain small amounts of materials known to the State of California to cause cancer and reproductive harm.

SECTION III PHYSICAL DATA

BOILING RANGE: N/A WT/GALLON: 9.0 to 10.8 %VOL BY VOLUME: 62.5 to 69.7
EVAPORATION RATE: SLOWER THAN ETHER VAPOR DENSITY: HEAVIER THAN AIR

SECTION IV FIRE AND EXPLOSION HAZARD DATA

D.O.T. FLAMMABILITY CLASS.: NOT REGULATED FLASH POINT: > 250 F PMCC
LEL: Not Applicable
EXTINGUISHING MEDIA: FOAM CO2 DRY CHEMICAL WATER FOG
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Toxic gases may form when product burns.
Closed containers may burst if exposed to extreme heat or fire.
SPECIAL FIRE FIGHTING PROCEDURES:
Cool exposed containers with water. Use self-contained breathing apparatus.

SECTION V HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE - ACUTE:
Inhalation - Causes nose and throat irritation.
Contact - Causes eye burns.
Contact - Causes skin irritation.
Ingestion of large amounts could cause serious injury.
EFFECTS OF OVEREXPOSURE - CHRONIC:
IARC has classified Carbon Black as possibly carcinogenic for humans (2B).
MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:
None expected when used in accordance with Safe Handling and Use Information (Section VIII).
PRIMARY ROUTE(S) OF ENTRY: DERMAL INHALATION INGESTION
EMERGENCY AND FIRST AID PROCEDURES :
Inhalation - Remove to fresh air. Get medical help for any breathing difficulty.
Eye Contact - Flush thoroughly with water. Call physician.
Skin Contact - Wash with soap and water.
Ingestion - Drink 1 or 2 glasses of water to dilute.
DO NOT induce vomiting. Call physician.

SECTION VI REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION WILL NOT OCCUR
CONDITIONS TO AVOID: Elevated temperatures
HAZARDOUS DECOMPOSITION PRODUCTS:
Burning may produce carbon dioxide and carbon monoxide.
INCOMPATIBILITY (MATERIALS TO AVOID): None reasonably foreseeable.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Flush with water. Absorb with sawdust or rags.
WASTE DISPOSAL METHOD:

Conventional procedures in compliance with local, state and federal regulations. Do not incinerate sealed containers.

SECTION VIII SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION:

Use NIOSH approved respirator specified for protection against paint spray mist and sanding dust in restricted or confined areas.

VENTILATION:

Adequate to maintain working atmosphere below T.L.V. and L.E.L.

(See Sect. II for ingredient data and concentrations). Mechanical exhaust may be required in confined areas.

PROTECTIVE GLOVES: Waterproof during repeated contact.

EYE PROTECTION : Splash goggles or safety glasses with side shields.

OTHER PROTECTIVE EQUIPMENT: Clothing adequate to protect skin.

HYGIENIC PRACTICES:

Remove and wash clothing before reuse. Wash hands before eating, smoking or using the washroom.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Do not throw or drop containers.

OTHER PRECAUTIONS :

Avoid contact with eyes and prolonged contact with skin or breathing of spray mist or sanding dust.

Close container after each use. Keep out of reach of children. Do not take internally.

SECTION XX

HMIS (Hazardous Materials Identification System)(R) NPCA
HMIS is a recognized workplace Hazard Communications System as required by OSHA (29 CFR 1910.1200). Information on establishing a compliant hazardous communication program using HMIS is available from:

American Labelmark Co., Inc., Labelmaster Division
5724 N. Pulaski Rd., Chicago, IL 60646
1-800-621-5808

The ratings assigned by Benjamin Moore & Co. are only suggested ratings; the contractor/employer has ultimate responsibility for HMIS rating where this system is used.

PERSONAL PROTECTION: This code is left blank on Benjamin Moore & Co. MSDS's as it depends on application technique and the workplace ventilation.

Please read Sections II through IX of this MSDS before deciding on appropriate protective equipment and beginning work. There are codes available for this section which can be obtained from Labelmaster.

This product contains at least one toxic chemical listed in Section II that is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372.

DISCLAIMER

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of

information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

NOTICE: Removal of old paint by sanding, scraping or other means may generate dust or fumes which contain lead. Exposure to lead dust or fumes may cause adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For additional information, contact the USEPA/Lead Information Hotline at 1-800-LEAD-FYI.



Material Safety Data Sheet

Revision Date: 30-Mar-2009

Revision Number: 4

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name AURA WATERBORNE EXT PAINT SATIN FINISH
Product Code 631
Product Class WATER THINNED PAINT
Color All

Manufacturer Benjamin Moore & Co.
101 Paragon Drive
Montvale, NJ 07645
Phone: 201-573-9600
www.benjaminmoore.com

Emergency Telephone Number(s)
CHEMTREC: 800-424-9300

2. COMPOSITION INFORMATION ON COMPONENTS

Hazardous Components

Chemical Name	CAS-No	Weight % (max)
Titanium dioxide	13463-67-7	25
Kaolin	1332-58-7	10
Nepheline syenite	37244-96-5	5
Zinc oxide	1314-13-2	5
Silica, amorphous	7631-86-9	5
Sodium nitrite	7632-00-0	0.5

3. HAZARDS IDENTIFICATION

Emergency Overview

Vapors may be irritating to eyes, nose, throat, and lungs. May cause skin irritation and/or dermatitis.

Appearance liquid

Odor little or no odor

Potential Health Effects

Principal Routes of Exposure Eye contact, skin contact and inhalation.

Acute Effects

Eyes May cause slight irritation.
Skin Substance may cause slight skin irritation.
Inhalation May cause irritation of respiratory tract.

Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic Effects	Repeated contact may cause allergic reactions in very susceptible persons.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions None known

HMIS **Health:** 1* **Flammability:** 0 **Reactivity:** 0 **PPE:** -

HMIS Legend

0 - Minimal Hazard

1 - Slight Hazard

2 - Moderate Hazard

3 - Serious Hazard

4 - Severe Hazard

* - Chronic Hazard

X - Consult your supervisor or S.O.P. for "Special" handling instructions.

Note: The PPE rating has intentionally been left blank. Choose appropriate PPE that will protect employees from the hazards the material will present under the actual normal conditions of use.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, Benjamin Moore & Co., has chosen to provide them. HMIS® ratings are to be used only in conjunction with a fully implemented HMIS® program by workers who have received appropriate HMIS® training. HMIS® is a registered trade and service mark of the NPCA. HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

4. FIRST AID MEASURES

General Advice	No hazards which require special first aid measures.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Consult a physician if necessary.
Notes To Physician	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Protective Equipment And Precautions For Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Specific Hazards Arising From The Chemical	Closed containers may rupture if exposed to fire or extreme heat.
Sensitivity To Mechanical Impact	No
Sensitivity To Static Discharge	No
Flash Point Data	
Flash Point (°F)	Not applicable
Flash Point (°C)	Not applicable
Flash Point Method	Not applicable
Flammability Limits In Air	
Lower Explosion Limit	Not applicable
Upper Explosion Limit	Not applicable

NFPA **Health:** 1 **Flammability:** 0 **Instability:** 0 **Special:** Not Applicable

NFPA Legend

0 - Not Hazardous
1 - Slightly
2 - Moderate
3 - High
4 - Severe

The ratings assigned by Benjamin Moore & Co. are only suggested ratings, the contractor/employer has ultimate responsibilities for NFPA ratings where this system is used.

Additional information regarding the NFPA rating system is available from the National Fire Protection Agency (NFPA) at www.nfpa.org.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.
Environmental Precautions	Prevent further leakage or spillage if safe to do so.
Methods For Clean-Up	Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.
Other Information	None known

7. HANDLING AND STORAGE

Handling	Avoid contact with skin, eyes and clothing. Avoid breathing vapors, spray mists or sanding dust. In case of insufficient ventilation, wear suitable respiratory equipment.
Storage	Keep container tightly closed. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

Hazardous Components

Chemical Name	ACGIH	OSHA
Titanium dioxide	10 mg/m ³ - TWA	15 mg/m ³ - TWA total
Kaolin	2 mg/m ³ - TWA	15 mg/m ³ - TWA total 5 mg/m ³ - TWA
Nepheline syenite	N/E	N/E
Zinc oxide	2 mg/m ³ - TWA 10 mg/m ³ - STEL	15 mg/m ³ - TWA total 5 mg/m ³ - TWA
Silica, amorphous	N/E	- (80)/(% SiO ₂) mg/m ³ TWA 20 mppcf - TWA
Sodium nitrite	N/E	N/E

Legend

ACGIH - American Conference of Governmental Industrial Hygienists Exposure Limits

OSHA - Occupational Safety & Health Administration Exposure Limits

N/E - Not Established

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment**Eye/Face Protection**

Safety glasses with side-shields.

Skin Protection

Protective gloves and impervious clothing.

Respiratory Protection

In case of insufficient ventilation wear suitable respiratory equipment.

Hygiene Measures

Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	liquid
Odor	little or no odor
Density (lbs/gal)	9.4 - 11.4
Specific Gravity	1.1 - 1.4
pH	Not available
Viscosity (centistokes)	Not available
Evaporation Rate	Not available
Vapor Pressure	Not available
Vapor Density	Not available
Wt. % Solids	40 - 60
Vol. % Solids	35 - 45
Wt. % Volatiles	40 - 60
Vol. % Volatiles	55 - 65
VOC (g/L)	< 50
Boiling Point (°F)	212
Boiling Point (°C)	100
Freezing Point (°F)	32
Freezing Point (°C)	0
Flash Point (°F)	Not applicable
Flash Point (°C)	Not applicable
Flash Point Method	Not applicable
Upper Explosion Limit	Not applicable
Lower Explosion Limit	Not applicable

9. PHYSICAL AND CHEMICAL PROPERTIES

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions To Avoid	Prevent from freezing
Incompatible Materials	No materials to be especially mentioned.
Hazardous Decomposition Products	None under normal use.
Possibility Of Hazardous Reactions	None under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product

No information available

Component

Titanium dioxide

LD50 Oral: > 24000 mg/kg (Rat)

LD50 Dermal: > 10000 mg/m³ (Rabbit)

LC50 Inhalation (Dust): > 6.82 mg/L (Rat, 4 hr.)

Kaolin

LD50 Oral: > 5000 mg/kg (Rat)

Nepheline syenite

Sensitization: No sensitizing effects known.

Zinc oxide

LD50 Oral: > 8437 mg/kg (Rat)

LC50 Inhalation (Dust): > 5700 mg/m³ (Rat, 4 hr.)

Silica, amorphous

LD50 Oral: > 10000 mg/kg (Rat)

LD50 Dermal: 2,000 mg/kg (Rabbit)

LC50 Inhalation (Dust): > 2 mg/L

Sodium nitrite

LD50 Oral: 180 mg/kg (Rat)

LC50 Inhalation (Dust): 5.5 mg/m³ (Rat, 4 hr.)

Chronic Toxicity

Carcinogenicity

The information below indicates whether each agency has listed any ingredient as a carcinogen:

Chemical Name	ACGIH	IARC	NTP	OSHA Carcinogen Listed
Titanium dioxide		2B - Possible Human Carcinogen		
Sodium nitrite		2A - Probable Human Carcinogen		

Although IARC has classified titanium dioxide as possibly carcinogenic to humans (2B), their summary concludes: "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as paint."

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

IARC - International Agency for Research on Cancer

NTP - National Toxicity Program

OSHA - Occupational Safety & Health Administration

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects**Product**Acute Toxicity to Fish

No information available

Acute Toxicity to Aquatic Invertebrates

No information available

Acute Toxicity to Aquatic Plants

No information available

ComponentAcute Toxicity to FishTitanium dioxide

LC50: >1000 mg/L (Fathead Minnow - 96 hr.)

Acute Toxicity to Aquatic Invertebrates

No information available

Acute Toxicity to Aquatic Plants

No information available

13. DISPOSAL CONSIDERATIONS**Waste Disposal Method**

Dispose of in accordance with federal, state, and local regulations. Dry, empty containers may be recycled in a can recycling program. Local requirements may vary, consult your sanitation department or state-designated environmental protection agency for more disposal options.

14. TRANSPORT INFORMATION**DOT**

Not regulated

ICAO / IATA

Not regulated

IMDG / IMO

Not regulated

15. REGULATORY INFORMATION**International Inventories****United States TSCA**

Yes - All components are listed or exempt.

Canada DSL

No - Not all of the components are listed.

Federal Regulations**SARA 311/312 hazardous categorization**

Acute Health Hazard	No
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name

Sodium nitrite

CAS-No

7632-00-0

Weight % (max)

0.5

This product may contain trace amounts of (other) SARA reportable chemicals. Contact Benjamin Moore & Co. for further information.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:

This product may contain trace amounts of (other) HAPs chemicals. Contact Benjamin Moore & Co. for further information.

State Regulations

California Proposition 65

This product may contain small amounts of materials known to the state of California to cause cancer or reproductive harm.

State Right-to-Know

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Louisiana	Rhode Island
Titanium dioxide	X	X	X		X
Kaolin	X		X		X
Zinc oxide	X	X	X		X
Silica, amorphous	X	X	X		
Sodium nitrite	X	X	X		

Legend

X - Listed

16. OTHER INFORMATION

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

Prepared By Product Stewardship Department
Benjamin Moore & Co.
360 Route 206 - P.O. Box 4000
Flanders, NJ 07836
973-252-2593

Revision Date: 30-Mar-2009
Revision Summary Not available

Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, provincial, and local laws and regulations.

End of MSDS

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 106.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Benzoic Acid

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Benzoic acid	65-85-0	C ₆ H ₅ COOH	122.12	
Synonym: Benzene carboxylic acid				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell or if eye irritation persists (P312+P313+P337).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. (P305+P351+P338).

If on skin (or hair): Immediately remove all contaminated clothing. Rinse skin with water.

If swallowed: Rinse mouth (P330). Call a POISON CENTER or physician if you feel unwell (P301+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Class IIIB combustible solid.

Flash point: 121 °C Autoignition Temperature: 570 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

H-1

F-1

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources. Do not allow solid to become airborne. Ventilate area. Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids.
Keep container tightly closed (P233). Use in a well-ventilated area or in a hood (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White crystalline powder. Odor like maple syrup.
Soluble: Alcohol. Slightly in water.

Boiling point: 249 °C
Melting point: 122 °C
Refractive index: 1.50
Specific gravity: 1.27
Vapor density: 4.21

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with heat, strong oxidizers, bases, and reducing agents. Combustible.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Severe eye irritant, respiratory irritant.
Chronic effects: N.A.
Target organs: Eyesm kybgs,

ORL-RAT LD₅₀: 1700 mg/kg
IHL-RAT LC₅₀: > 26 mg/m³/1H
SKN-RBT LD₅₀: > 10 g/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #24a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-618-2).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 107.00

Revision Date: September 22, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Benzophenone

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, dermal (Category 5). May be harmful in contact with skin (H313).

Hazard class: Carcinogenicity (Category 2). Suspected of causing cancer (H351). Obtain special instructions before use (P201). Do not handle until all safety precautions have been read and understood (P202). Use personal protective equipment as required (P281). IARC-2B

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Benzophenone	119-61-9	(C ₆ H ₅) ₂ CO	182.22	
Synonym: Diphenyl ketone				

SECTION 4 — FIRST AID MEASURES

If exposed or concerned: Get medical advice or attention (P308+P313).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Combustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None

established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #4. Store with ethers, ketones, and halogenated hydrocarbons.
Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Off-white chips and flakes. Geranium-like odor.

Soluble: Partially alcohol and chloroform. Insoluble in water.

Boiling point: 305 °C

Melting point: 49 °C

Refractive index: 1.6077

Specific gravity: 1.11

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers and reducers.

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.

Chronic effects: Possibly carcinogenic, IARC-2B

Target organs: N.A.

ORL-RAT LD₅₀: >10 g/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: 3535 mg/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #18b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (204-337-6).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: September 22, 2014



Material Safety Data Sheet

MSDS

Revised 29 Aug 2007

Printed 12 Feb 2009

Bernzomatic BF9 BUTANE FUEL

MATERIAL IDENTIFICATION

Marketer: Bernzomatic
1 Bernzomatic Drive
Medina, NY 14103

Hazardous Ratings:

4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

HMIS Hazard Class:

Fire = 4
Health = 1
Reactivity = 0

NFPA Hazard Class:

Fire = 4
Health = 1
Reactivity = 0

Phone Number: 800-654-9011
Transportation Emergency: 800-424-9300

Chemical Trade Name,
synonyms: LP Gas, A-28

Chemical Family: Hydrocarbon, LP Gas

Chemical Formula: C_4H_{10}

COMPONENTS

Material	CAS Number	PEL/TLV, Source	Percent
Liquefied Petroleum Gas			
N,Butane, volume	106-97-8	1000 ppm, OSHA	22%
Isobutane, volume	75-28-5	1000 ppm, OSHA	78%

PHYSICAL DATA

Boiling Point	-11.7F
Pressure in can at 70°F	Approx. 28 psig
Vapor Density (Air=1)	Greater than 2
Solubility in water	Less than 0.1% by weight @70F
Specific Gravity (Water=1)	0.5676

Percent Volatile by weight	100%
Evaporation Rate (BuAce=1)	Gas
Appearance and odor	Liquefied compressed gas, flash evaporates at room temperature when released from can, colorless gas with essentially no odor.

HAZARDOUS REACTIVITY

Stability	Stable when stored as a liquid in cans under its own pressure.
Conditions to avoid	Contact with sparks, open flame or any source of ignition.
Hazardous Polymerization	Will not occur
Hazardous Decomposition Products	May produce carbon monoxide when oxidized with deficiency of oxygen.

FIRE AND EXPLOSION DATA

Flammability Category	Extremely Flammable (Reference - Consumer Product Commission, flame projection test for aerosol products, per 16 CFR 1500.45)
Flash Point	Less than -117°F
Flammable Limits	LEL% 1.8 UEL% 8.4
Extinguishing Media	If feasible, stop flow of gas. Use water to cool fire-exposed cans, surroundings and to protect personnel working on shut off. Water spray, dry powder or carbon dioxide can be directed at flame area, if gas flow cannot be stopped, to reduce fire intensity. DO NOT COMPLETELY EXTINGUISH FLAME UNLESS GAS FLOW IS SHUT OFF!
Unusual Fire and Explosion Hazards	<p>This product presents an extreme fire hazard. Liquid very quickly evaporates, even at low temperatures, and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches.</p> <p>For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing Apparatus against the hazardous effects of normal products of combustion of oxygen deficiency. Petroleum gases are heavier than air and travel along the ground or into drains to possible distant ignition sources, causing an explosive flashback.</p>
Special Fire Fighting Procedures	<p>Avoid possible accumulations of vapors at floor level, as vapor is heavier than air. Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.</p> <p>This product is extremely flammable at all times. Keep away from any sources of inadvertent ignition, including heat, fire, sparks, or flame.</p>

HEALTH HAZARD INFORMATION

Suggested Exposure Guideline	1000 ppm
Primary Route of Exposure	Inhalation, skin contact, eye contact
Inhalation	This product is an asphyxiate and may exhibit anesthetic properties at very high concentrations. Initial symptoms of exposure at these concentrations are disorientation, lack of coordination, rapid respiration, headache, and nausea. Continued exposure May result in unconsciousness, coma, and possible death.
Skin Contact	Vapors are not irritating. Freeze burns or frostbite possible if skin is in prolonged contact with vaporizing liquid.
Eye Contact	Same as skin contact.
Carcinogenicity	None of the components in this material are listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

FIRST AID

Inhalation	Remove to fresh air. Artificial respiration, consult physician.
Skin Contact	Wash with soap and water. Remove soaked clothing to avoid prolonged skin contact.
Eye Contact	Flush eyes well with running water for 15 minutes.
Ingestion	NA, product is gaseous at normal temperature and pressure.

SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled	Protect from any ignition source, keep away from heat, fire, sparks, or flame. Ventilate area well. Avoid accumulation of vapor at low levels.
Waste disposal method	Dispose of in accordance with all local, state and federal regulations. Do not puncture or incinerate.

SPECIAL PROTECTION INFORMATION

Respiration Protection	If TLV is exceeded wear NIOSH-approved self-contained breathing device or respirator.
Ventilation	Must be adequate to maintaining airborne concentrations below established exposure limits, particularly at floor level as vapors are heavier than air.
Protective gloves	None needed for normal use. Thermal insulated gloves when handling if prolonged exposure expected.

Eye Protection

Safety glasses or goggles recommended

HANDLING AND STORAGE PRECAUTIONS

Precautions to be taken
in handling and storage

Do not store where temperature may exceed 120°F. Store away from, fire, sparks, or flame. Store in suitable area for hazardous materials storage.

D.O.T. Shipping
Classification

Lighter, Lighter Refills, 2.1

Hazard Class

2.1

ID Number

UN1057

Label Required

Flammable Gas

TSCA Statement: All the components of this product are in compliance with the Toxic Substances Control Act (TSCA) and are either listed on the TSCA Inventory or otherwise exempted from listing.

SPECIAL PRECAUTIONS

Precautions for usage

Do not use near heat, fire, flame or sparks. Avoid excessive breathing of vapor. Do not spray in direction of body. Use only in accordance with directions.

Notice: This data represents typical values, not product specifications. No guarantee of accuracy or completeness is made. No responsibility is assumed for any kind of loss or damages arising from use of this data.

End of MSDS

Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

Identity (As Used on Label and List)

MAPP GAS

*Note: Blank spaces are not permitted. If any item is not applicable, or
no information is available, the space must be marked to indicate
that.*

SECTION 1

Supplier's Name

Bernz-O-matic

Emergency Telephone Number

585-798-4949

Address

*Number, Street, City, State and ZIP Code***One BernzOmatic Drive
Medina, NY 14103**

Telephone Number for Information

585-798-4949

Date Prepared

November 10, 2005

Signature of Preparer (Optional)

SECTION II - Hazardous Ingredients / Identity Information

Hazardous Components

Specific Chemical Identity, Common Name(s)

Liquefied Petroleum Gas w/ Methylacetylene

Liquefied Petroleum Gas CAS NO. 68476-85-7

Methyl Acetylene-Propadiene CAS NO. 56960-91-9

OSHA PEL

N/A

1000PPM

1000PPM

ACGIH TLV

N/A

Other Limits
Recommended

N/A

% (optional)

56.0

44.0

NFPA HAZARD RATINGS

Health -2

Flammability -4

Reactivity -2

HMIS RATINGS

Health -0

Flammability -4

Reactivity -2

Notes**SECTION III - Physical / Chemical Characteristics**

Boiling Point

-54° F to -10° FSpecific Gravity (H₂O - 1)**0.571**

Vapor Pressure (mm Hg)

@ 70° F**97 psig**

Melting Point

N/A

Vapor Density (AIR=1)

1.48

Evaporation Rate

Butyl Acetate -1)

N/A

Solubility in Water

Slight

Appearance and Odor

Colorless - unpleasant odor at approx. 100ppm**SECTION IV - Fire and Explosion Hazard Data**

Flash Point (Method Used)

Closed Cup -156° F

Flammable Limits

In air by volume

LEL

3.0

UEL

11.0

Extinguishing Media

**Eliminate oxygen source or stop flow of gas. Use water to cool cylinder.
Dry chemical or CO₂ to reduce oxygen.**

Special Fire Fighting Procedures

Cool cylinders with water. Keep personnel away.

Unusual Fire and Explosion Hazards **Auto Ignition temp. 850° F. Keep ignition sources away from cylinder and
continue to cool cylinder until gas flow is shut off. Escaping gas from cylinder may be ignited.**

SECTION V - Reactivity Data

Stability →

Unstable**Stable X**

Conditions to Avoid

Do not expose to temperatures above 125° F.

Incompatibility (Materials to Avoid)

Extremely flammable. Avoid uncontrolled contact with oxidizers.

Hazardous Decomposition or Byproducts

None

Hazardous

Polymerization →

May Occur**Will Not Occur X**

Conditions to Avoid

N/A

SECTION VI - Health Hazard Data

Routes of Entry →	Inhalation? YES	Skin? YES	Ingestion? UNLIKELY
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Health Hazards (Acute and Chronic)

Asphyxiant. May reduce oxygen required for breathing. Liquid gas may freeze skin.

Carcinogenicity →	NTP? N/A	IARC Monographs? N/A	OSHA Regulated? NO
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Signs and Symptoms of Exposure

Dizziness to unconsciousness if high concentrations of gas replace oxygen for breathing.

Medical Conditions Generally Aggravated by Exposure

N/A

Emergency and First Aid Procedures

Remove person to fresh air.. If unconscious, seek medical attention.

Warning

This fuel, and byproducts of combustion of this fuel, contain chemicals known to the State of California to cause cancer, birth defects, and other reproductive harm.**SECTION VII - Precautions for Safe Handling and Use**

Steps to be Taken in Case Material is Released or Spilled

Remove ignition sources. Ventilate area.

Waste Disposal Method

Vent to atmosphere in outdoor area free of all sources of ignition.

Precautions to be Taken in Handling and Storing

Store in well ventilated area away from all ignition sources.**Store at temperatures below 125° F. Store out of direct sunlight.**

Other Precautions

N/A**SECTION VIII - Control Measures**

Respiratory Protection (Specify Type)

Not required with normal use.

Ventilation →	Local Exhaust Advisable when welding.	Mechanical (General) N/A	Special N/A	Other N/A
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Protective Gloves Advisable when welding.	Eye Protection Use filter shade No. 4 or darker when welding.
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Other Protective Clothing or Equipment

N/A

Work / Hygienic Practices

N/A**SECTION IX - Shipping Information**

WHMIS Classification: A - Compressed Gas & B1-Flammable Gas		Class: 2.1	
DOT	Proper Shipping Name Methyl Acetylene and Propadiene Mixtures, Stablized	Hazard Classification Flammable Gas	UN. No. 1060

SAFETY DATA SHEET

1. Identification

Product identifier Propane

Other means of identification

SDS number WC002

Product code UN1075

Recommended use Portable fuel.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Worthington Cylinder Corporation

Address 300 E. Breed St., Chilton, WI 5301
United States

Contact person Ann Stiefvater

E-mail address Ann.Stiefvater@worthingtonindustries.com

Telephone number 1-920-849-1740

Emergency telephone number 1-703-527-3887 International / CHEMTREC 1-800-424-9300 Domestic

2. Hazard(s) identification

Physical hazards Flammable gases Category 1
Gases under pressure Liquefied gas

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Extremely flammable gas. Contains gas under pressure; may explode if heated.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Response Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Storage Protect from sunlight. Store in a well-ventilated place.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) May displace oxygen and cause rapid suffocation.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Propane	74-98-6	87.5-100
Ethane	74-84-0	0-7
Propylene	115-07-1	0-5
Butane	106-97-8	0-2.5

Additives

Chemical name	CAS number	%
Ethyl Mercaptan	75-08-1	<0.005

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician or poison control center immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation develops and persists. If frostbite occurs, immerse involved area in warm water (between 100 F/38 C and 110 F/43 C, not exceeding 112 F/44 C). Keep immersed for 20 to 40 minutes. Seek medical assistance.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Ingestion is not a typical route of exposure for gases or liquefied gases.
Most important symptoms/effects, acute and delayed	Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite ("cold burn"). Very high exposure can cause suffocation from lack of oxygen. May cause drowsiness or dizziness.
Indication of immediate medical attention and special treatment needed	Exposure may aggravate pre-existing respiratory disorders. Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemical, CO ₂ , water spray, fog, or foam.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move container from fire area if it can be done without risk. Do not extinguish fires unless gas flow can be stopped safely; explosive re-ignition may occur. Promptly isolate the scene by removing all persons from the vicinity of the incident. No action shall be taken involving any personal risk or without suitable training. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. Stop flow of material. Use water to keep fire exposed containers cool and to protect personnel effecting shutoff. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop leak. Prevent runoff from fire control or dilution from entering streams, sewers or drinking water supply.
General fire hazards	Extremely flammable gas.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Evacuate the area promptly. No action shall be taken involving any personal risk or without suitable training. Keep unnecessary personnel away. Ensure adequate ventilation. In case of inadequate ventilation, use respiratory protection. Wear appropriate personal protective equipment (See Section 8).
Methods and materials for containment and cleaning up	Ventilate well, stop flow of gas or liquid if possible. Immediately contact emergency personnel.
Environmental precautions	Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent from entering into soil, ditches, sanitary sewers, waterways and/or groundwater.

7. Handling and storage

Precautions for safe handling	Eliminate all sources of ignition. Wear appropriate personal protective equipment (See Section 8). Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Do not breathe gas. Do not get in eyes, on skin, on clothing. Use only with adequate ventilation.
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Conditions for safe storage, including any incompatibilities

Store in accordance with local, regional, national, and international regulations. Secure cylinders in an upright position at all times, close all valves when not in use. Store in a cool, dry, well-ventilated place. Keep container tightly closed and sealed until ready for use. Protect cylinders from damage.

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Propane (CAS 74-98-6)	PEL	1800 mg/m3 1000 ppm
Additives	Type	Value
Ethyl Mercaptan (CAS 75-08-1)	Ceiling	25 mg/m3 10 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Butane (CAS 106-97-8)	STEL	1000 ppm
Propylene (CAS 115-07-1)	TWA	500 ppm
Additives	Type	Value
Ethyl Mercaptan (CAS 75-08-1)	TWA	0.5 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Butane (CAS 106-97-8)	TWA	1900 mg/m3 800 ppm
Propane (CAS 74-98-6)	TWA	1800 mg/m3 1000 ppm
Additives	Type	Value
Ethyl Mercaptan (CAS 75-08-1)	Ceiling	1.3 mg/m3 0.5 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Provide adequate ventilation and minimize the risk of inhalation of gas. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear approved safety glasses or goggles.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear protective clothing appropriate for the risk of exposure.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards Contact with liquefied gas might cause frostbites, in some cases with tissue damage. Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Do not eat, drink or smoke when using the product. Wash thoroughly after handling. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practices.

9. Physical and chemical properties

Appearance	Colorless gas.
Physical state	Gas.
Form	Compressed liquefied gas.
Color	Colorless.
Odor	Rotten egg.

Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	-306.4 °F (-188 °C)
Initial boiling point and boiling range	-43.6 °F (-42 °C) 14.7 psia
Flash point	-155.2 °F (-104.0 °C)
Evaporation rate	Not applicable.
Flammability (solid, gas)	Extremely flammable gas.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	2.15 %
Explosive limit - upper (%)	9.6 %
Vapor pressure	127 psig (21°C / 70°F)
Vapor density	Not available.
Relative density	0.504 (liquid) 1.5 (vapor) (air=1) @ 15°C / 60°F
Solubility(ies)	
Solubility (water)	Slightly soluble in water.
Partition coefficient (n-octanol/water)	1.77
Auto-ignition temperature	809.6 °F (432 °C)
Decomposition temperature	Not available.
Viscosity	Not applicable.
Other information	
Molecular weight	45 g/mol
Percent volatile	100 %

10. Stability and reactivity

Reactivity	Reacts violently with strong oxidants, nitrites, inorganic chlorides, chlorites and perchlorates causing fire and explosion hazard.
Chemical stability	Stable under normal temperature conditions and recommended use.
Possibility of hazardous reactions	Polymerization will not occur.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents. Strong acids. Halogens.
Hazardous decomposition products	Carbon oxides. Hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Not likely, due to the form of the product.
Inhalation	High concentrations: Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Breathing of high concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness.
Skin contact	Contact with liquefied gas may cause frostbite.
Eye contact	Contact with liquefied gas may cause frostbite.
Symptoms related to the physical, chemical and toxicological characteristics	Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite ("cold burn"). Very high exposure can cause suffocation from lack of oxygen. May cause drowsiness or dizziness.

Information on toxicological effects

Acute toxicity	High concentration: Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels.
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Components	Species	Test Results
Butane (CAS 106-97-8)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	680 mg/l, 2 Hours
	Rat	658 mg/l, 4 Hours
Propane (CAS 74-98-6)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 1442 mg/l, 15 Minutes
Propylene (CAS 115-07-1)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	680 mg/l, 2 Hours
	Rat	658 mg/l, 4 Hours
Additives	Species	Test Results
Ethyl Mercaptan (CAS 75-08-1)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Mouse	4420 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	682 mg/kg
Skin corrosion/irritation	Contact with liquefied gas might cause frostbites, in some cases with tissue damage.	
Serious eye damage/eye irritation	Direct contact with liquefied gas may cause eye damage from frostbite.	
Respiratory or skin sensitization		
Respiratory sensitization	Not classified.	
Skin sensitization	Not classified.	
Germ cell mutagenicity	Not classified.	
Carcinogenicity	Not classified.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Propylene (CAS 115-07-1)	3 Not classifiable as to carcinogenicity to humans.	
Reproductive toxicity	Not classified.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not classified.	
12. Ecological information		
Ecotoxicity	Not expected to be harmful to aquatic organisms.	
Persistence and degradability	The product is readily biodegradable.	
Bioaccumulative potential	The product is not expected to bioaccumulate.	
Partition coefficient n-octanol / water (log Kow)		
Propane (CAS Mixture)		1.77
Butane (CAS 106-97-8)		2.89
Propane (CAS 74-98-6)		2.36
Propylene (CAS 115-07-1)		1.77
Mobility in soil	May evaporate quickly.	
Mobility in general	May evaporate quickly.	

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Use the container until empty. Do not dispose of any non-empty container. Empty containers have residual vapor that is flammable and explosive. Cylinders should be emptied and returned to a hazardous waste collection point. Do not puncture or incinerate even when empty. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 °F

Waste from residues / unused products Dispose in accordance with all applicable regulations.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN1075

UN proper shipping name Petroleum Gases, liquefied

Transport hazard class(es)

Class 2.1

Subsidiary risk -

Packing group Not applicable.

Environmental hazards

Marine pollutant No

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions 19, T50

Packaging exceptions 306

Packaging non bulk 304

Packaging bulk 314, 315

IATA

UN number UN1075

UN proper shipping name Petroleum Gases, liquefied

Transport hazard class(es)

Class 2.1

Subsidiary risk -

Label(s) 2.1

Packing group Not applicable.

Environmental hazards No

ERG Code 10L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1075

UN proper shipping name Petroleum Gases, liquefied

Transport hazard class(es)

Class 2.1

Subsidiary risk -

Label(s) 2.1

Packing group Not applicable.

Environmental hazards

Marine pollutant No

EmS F-D, S-U

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This product is a compressed or liquefied gas and when transported in bulk is covered under IGC code.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Butane (CAS 106-97-8)	LISTED
Ethyl Mercaptan (CAS 75-08-1)	LISTED
Propane (CAS 74-98-6)	LISTED
Propylene (CAS 115-07-1)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - No
	Delayed Hazard - No
	Fire Hazard - Yes
	Pressure Hazard - Yes
	Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Propylene	115-07-1	0-5

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8)
Ethyl Mercaptan (CAS 75-08-1)
Propane (CAS 74-98-6)
Propylene (CAS 115-07-1)

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) Hazardous substance**Safe Drinking Water Act (SDWA)** Not regulated.**US state regulations****US. Massachusetts RTK - Substance List**

Butane (CAS 106-97-8)
Ethyl Mercaptan (CAS 75-08-1)
Propane (CAS 74-98-6)
Propylene (CAS 115-07-1)

US. New Jersey Worker and Community Right-to-Know Act

Butane (CAS 106-97-8)
Ethyl Mercaptan (CAS 75-08-1)
Propane (CAS 74-98-6)
Propylene (CAS 115-07-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Butane (CAS 106-97-8)
Ethyl Mercaptan (CAS 75-08-1)
Propane (CAS 74-98-6)
Propylene (CAS 115-07-1)

US. Rhode Island RTK

Butane (CAS 106-97-8)
Ethyl Mercaptan (CAS 75-08-1)
Propane (CAS 74-98-6)
Propylene (CAS 115-07-1)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

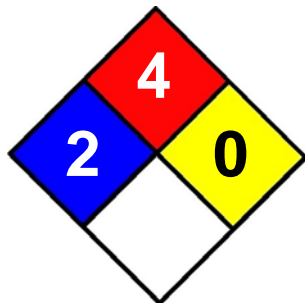
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-May-2014
Revision date 25-March-2015
Version # 03
NFPA Ratings

**Disclaimer**

All information in this Material Safety Data Sheet is believed to be accurate and reliable. However, no guarantee or warranty of any kind is made with regard to the accuracy of information or the suitability of the recommendations contained herein. It is the user's responsibility to assess the safety and toxicity of this product under their own conditions of use and to comply with all applicable laws and regulations.

SAFETY DATA SHEET



Best Bet

Section 1. Identification

GHS product identifier : Best Bet
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Supplier's details : Betco Corporation
1001 Brown Avenue
Toledo, OH 43607
www.betco.com
888-462-3826

Emergency telephone number (with hours of operation) : Chemtrec 800-424-9300 (24 Hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION/IRRITATION - Category 1
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
CARCINOGENICITY - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2

GHS label elements

Hazard pictograms : 

Signal word : Danger
Hazard statements : Harmful if inhaled.
Causes severe skin burns and eye damage.
May cause cancer.
May cause damage to organs.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves: > 8 hours (breakthrough time): butyl rubber. Wear eye or face protection: Recommended: safety glasses. Wear protective clothing. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Section 2. Hazards identification

Response : IF exposed or if you feel unwell: Call a POISON CENTER or physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : 077

Ingredient name	%	CAS number
crystalline silica, respirable powder	≥30 - <50	14808-60-7
Alcohols, C9-11, ethoxylated	≥3 - <4	68439-46-3
Benzenesulfonic acid, C10-16-alkyl derivs.	≥1 - <2	68584-22-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
Inhalation : Harmful if inhaled.
Skin contact : Causes severe burns.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
 pain
 watering
 redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
- Ingestion** : Adverse symptoms may include the following:
 stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

Section 5. Fire-fighting measures

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
crystalline silica, respirable powder	<p>OSHA PEL Z3 (United States, 2/2013). Notes: 250/(%SiO₂+5) TWA: 250 MPPCF / (%SiO₂+5) 8 hours. Form: Respirable</p> <p>OSHA PEL Z3 (United States, 2/2013). Notes: 10/(SiO₂+2) TWA: 10 MG/M³ / (%SiO₂+2) 8 hours. Form: Respirable</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 0.1 mg/m³, (as quartz) 8 hours. Form: Respirable dust</p> <p>ACGIH TLV (United States, 4/2014). TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction</p> <p>NIOSH REL (United States, 10/2013). TWA: 0.05 mg/m³ 10 hours. Form: respirable dust</p>

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Recommended: safety glasses

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Personal protective equipment (Pictograms) :



Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Viscous liquid.]

Color : Opaque. Off-white. [Dark]

Odor : Minty.

Odor threshold : Not available.

pH : 1.5 to 2.5

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: Not applicable. [Product does not sustain combustion.]

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.24562

Solubility : Very slightly soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : Not available.

Section 9. Physical and chemical properties

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air.
Reactive or incompatible with the following materials:
alkalis

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Alcohols, C9-11, ethoxylated	LD50 Dermal	Rabbit	2 g/kg	-
	LD50 Oral	Rat	1378 mg/kg	-
Benzenesulfonic acid, C10-16-alkyl derivs.	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	775 mg/kg	-

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
crystalline silica, respirable powder	-	1	Known to be a human carcinogen.

Reproductive toxicity

Not available.

Section 11. Toxicological information

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
crystalline silica, respirable powder	Category 2	Inhalation	Not determined

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal.
Routes of entry not anticipated: Oral, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : Harmful if inhaled.
Skin contact : Causes severe burns.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity : No known significant effects or critical hazards.

Section 11. Toxicological information

Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	2375 mg/kg
Dermal	106257.8 mg/kg
Inhalation (dusts and mists)	3.865 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Alcohols, C9-11, ethoxylated	Acute EC50 5.36 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 2686 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
Benzenesulfonic acid, C10-16-alkyl derivs.	Acute LC50 8500 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 5.65 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Alcohols, C9-11, ethoxylated	-	237	low

Mobility in soil

Soil/water partition coefficient (K_{oc})	: Not available.
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Other adverse effects	: No known significant effects or critical hazards.
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Section 13. Disposal considerations

Disposal methods	: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains
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Section 13. Disposal considerations

and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	3265	3265	3265	3265	3265	3265
UN proper shipping name	Corrosive Liquid, Acidic, Organic, N.O.S. (Dodecylbenzene Sulfonic Acid)	Corrosive Liquid, Acidic, Organic, N.O.S. (Dodecylbenzene Sulfonic Acid)	Corrosive Liquid, Acidic, Organic, N.O.S. (Dodecylbenzene Sulfonic Acid)	Corrosive liquid, acidic, organic, n.o.s. (Dodecylbenzene Sulfonic Acid)	Corrosive Liquid, Acidic, Organic, N.O.S. (Dodecylbenzene Sulfonic Acid)	Corrosive liquid, acidic, organic, n.o.s. (Dodecylbenzene Sulfonic Acid)
Transport hazard class(es)	8 	8 	8 	8 	8 	8 
Packing group	III	III	III	III	III	III
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information	<u>Limited quantity</u> Yes.	<u>Explosive Limit and Limited Quantity Index</u> 5	-	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
All components are listed or exempted.
Clean Water Act (CWA) 311: sulphuric acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

Section 15. Regulatory information

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
sulphuric acid	<0.1	Yes.	1000	66.3	1000	66.3

SARA 304 RQ : 5158814.1 lbs / 2342101.6 kg [496714.7 gal / 1880269.7 L]

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
crystalline silica, respirable powder	≥30 - <50	No.	No.	No.	Yes.	Yes.
Alcohols, C9-11, ethoxylated	≥3 - <4	No.	No.	No.	Yes.	No.
Benzenesulfonic acid, C10-16-alkyl derivs.	≥1 - <2	No.	No.	No.	Yes.	No.

State regulations

Massachusetts : The following components are listed: SILICA, CRYSTALLINE, QUARTZ
New York : None of the components are listed.
New Jersey : The following components are listed: SILICA, QUARTZ; QUARTZ (SiO₂)
Pennsylvania : The following components are listed: QUARTZ (SiO₂)

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
crystalline silica, respirable powder	Yes.	No.	No.	No.
titanium dioxide	Yes.	No.	No.	No.
sulphuric acid	Yes.	No.	No.	No.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Section 15. Regulatory information

Not listed.

International lists

National inventory

Australia	: Not determined.
Canada	: At least one component is not listed in DSL but all such components are listed in NDSL.
China	: All components are listed or exempted.
Europe	: Not determined.
Japan	: Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: All components are listed or exempted.
Taiwan	: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		0
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
Acute Tox. 4, H332 Skin Corr. 1, H314 Eye Dam. 1, H318 Carc. 1, H350 STOT SE 2, H371	Calculation method On basis of test data On basis of test data Calculation method Calculation method

History

Date of printing : 4/9/2015.

Date of issue/Date of revision : 4/9/2015.

Date of previous issue : 4/9/2015.

Version : 2

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

UNION RUBBER -- BEST-TEST PAPER CEMENT
MATERIAL SAFETY DATA SHEET
FSC: 8010
NIIN: 00F005418
Manufacturer's CAGE: 87719
Part No. Indicator: A
Part Number/Trade Name: BEST-TEST PAPER CEMENT

General Information

Company's Name: UNION RUBBER INC
Company's Street: 232 ALLEN STREET
Company's City: TRENTON
Company's State: NJ
Company's Zip Code: 08606
Company's Emerg Ph #: (713) 656-3424
Company's Info Ph #: (609) 396-9328
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 002
Date MSDS Prepared: 15SEP86
Safety Data Review Date: 17JUL95
Preparer's Company: UNION RUBBER INC
Preparer's St Or P. O. Box: 232 ALLEN STREET
Preparer's City: TRENTON
Preparer's State: NJ
Preparer's Zip Code: 08606
MSDS Serial Number: BXDRF

Ingredients/Identity Information

Proprietary: NO
Ingredient: HEXANE (N-HEXANE)
Ingredient Sequence Number: 01
Percent: 87%
NIOSH (RTECS) Number: MN9275000
CAS Number: 110-54-3
OSHA PEL: 500 PPM
ACGIH TLV: 50 PPM; 9293

Proprietary: NO
Ingredient: NON-HAZARDOUS FOR INGREDIENTS
Ingredient Sequence Number: 02
Percent: 13%
NIOSH (RTECS) Number: 1000314NH

Physical/Chemical Characteristics

Appearance And Odor: PALE STRAW COLOR, MILD, BLAND PLEASANT ODOR.
Boiling Point: 149-157F
Melting Point: LIQUID

Vapor Pressure (MM Hg/70 F): 180
Vapor Density (Air=1): 3.0
Specific Gravity: 0.68
Evaporation Rate And Ref: (N BU AC = 1): 16
Solubility In Water: NEGLIGIBLE: <0.1%

Fire and Explosion Hazard Data

Flash Point: <0F
Flash Point Method: CC
Lower Explosive Limit: 1%
Upper Explosive Limit: 7.5%
Extinguishing Media: FOAM, WATER SPRAY (FOG), DRY CHEMICAL, CO2
Special Fire Fighting Proc: KEEP PRODUCT AWAY FROM HEAT, SPARKS, PILOT LIGHTS, STATIC ELECTRICITY, & OPEN FLAME.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): HEAT, SPARK, PILOT LIGHTS, STATIC ELECTRICITY, & OPEN FLAME.
Materials To Avoid: AVOID CONTACT W/STRONG OXIDANTS SUCH AS LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM HYPOCHLORITE/CALCIUM HYPOCHLORITE.
Hazardous Decomp Products: FUMES, SMOKE, CO, ALDEHYDES & OTHER DECOMPOSITION PRODUCTS, IN THE CASE OF INCOMPLETE COMBUSTION.
Hazardous Poly Occur: NO

Health Hazard Data

Route Of Entry - Inhalation: NO
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: NO
Health Haz Acute And Chronic: PROLONGED OR REPEATED SKIN CONTACT WITH THIS PRODUCT TENDS TO REMOVE SKIN OILS POSSIBLY LEADING TO IRRITATION & DERMATITIS. MAY CAUSE EYE IRRITATION. PRODUCT HAS A LOW ORDER OF ACUTE ORAL & DERMAL TOXICITY, BUT AMTS ASPIRATED INTO THE LUNGS DURING INGESTION MAY CAUSE MILD TO SEVERE PULMONARY INJURY & POSSIBLY DEATH.
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NONE
Signs/Symptoms Of Overexp: HIGH VAPOR CONCENTRATIONS (>100 PPM) ARE IRRITATING TO THE EYES & RESPIRATORY TRACT, MAY CAUSE HEADACHES & DIZZINESS, ARE ANESTHETICS, & MAY HAVE OTHER CENTRAL NERVOUS SYSTEM EFFECTS.
Emergency/First Aid Proc: EYES: FLUSH W/CLEAR WATER FOR 15 MIN. IF IRRITATION PERSISTS, CALL PHYSICIAN. SKIN: REMOVE ANY CONTAMINATED

CLOTHING

& WASH THOROUGHLY W/SOAP & WATER. INHALATION: REMOVE FROM EXPOSURE & CALL

PHYSICIAN. IF BREATHING IS IRREGULAR OR HAS STOPPED, START RESUSCITATION, ADMINISTER OXYGEN, IF AVAILABLE. INGESTED: DON'T INDUCE VOMITING; CALL PHYSICIAN IMMEDIATELY.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: SHUT OFF & ELIMINATE ALL IGNITION SOURCES. KEEP PEOPLES AWAY. RECOVER FREE PRODUCT. ADD SAND, EARTH OR OTHER SUITABLE

ABSORBENT TO SPILL AREA. MINIMIZE BREATHING VAPORS. MINIMIZE SKIN CONTACT.

VENTILATE CONFINED SPACES. OPEN ALL WINDOWS & DOORS.

Precautions-Handling/Storing: KEEP DON'T STORE NEAR HEAT, SPARKS, FLAMES OR STRONG OXIDANTS. KEEP STORAGE CONTAINERS CLOSED WHEN NOT IN USE. MINIMIZE BREATHING VAPOR OR MIST.

Control Measures

Respiratory Protection: USE SUPPLIED-AIR RESPIRATORY PROTECTION IN CONFINED OR ENCLOSED SPACES, IF NEEDED.

Ventilation: PROVIDE LOCAL EXHAUST VENTILATION TO KEEP <TLV. USE EXPLOSION-PROOF EQUIPMENT.

Protective Gloves: RESISTANT

Eye Protection: GOGGLES OR FACESHIELD

Other Protective Equipment: USE CHEMICAL-RESISTANT APRON OR OTHER IMPERVIOUS CLOTHING, IF NEEDED, TO AVOID PROLONGED OR REPEATED SKIN CONTACT.

Work Hygienic Practices: REMOVE CONTAMINATED SHOES & THOROUGHLY CLEAN & DRY BEFORE REUSE. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN

Transportation Data

Trans Data Review Date: 95198

Disposal Data

Label Data

Label Required: YES

Technical Review Date: 17JUL95

Label Status: G

Common Name: BEST-TEST PAPER CEMENT

Special Hazard Precautions: PROLONGED OR REPEATED SKIN CONTACT WITH THIS PRODUCT TENDS TO REMOVE SKIN OILS POSSIBLY LEADING TO IRRITATION & DERMATITIS. MAY CAUSE EYE IRRITATION. PRODUCT HAS A LOW ORDER OF ACUTE ORAL

& DERMAL TOXICITY, BUT AMTS ASPIRATED INTO THE LUNGS DURING INGESTION
MAY
CAUSE MILD TO SEVERE PULMONARY INJURY & POSSIBLY DEATH. HIGH VAPOR
CONCENTRATIONS (>100 PPM) ARE IRRITATING TO THE EYES & RESPIRATORY TRACT,
MAY CAUSE HEADACHES & DIZZINESS, ARE ANESTHETICS, & MAY HAVE OTHER
CENTRAL
NERVOUS SYSTEM EFFECTS.

Label Name: UNION RUBBER INC

Label Street: 232 ALLEN STREET

Label City: TRENTON

Label State: NJ

Label Zip Code: 08606

Label Emergency Number: (713) 656-3424

=====

URL for this msds <http://hazard.com>. If you wish to change, add to, or
delete information in this archive please sent updates to dan@hazard.com.

MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTITY

MANUFACTURER'S NAME	Union Rubber, Inc.	REGULAR TELEPHONE NO. (609) 396-9328 EMERGENCY TELEPHONE NO. (610) 874-2537
ADDRESS	232 Allen Street, Trenton, New Jersey 08606 P.O. Box 1040	
COMMON NAME	Best-Test Repositional Spray Adhesive	
CAS. NUMBER	See Section 2	
CHEMICAL NAME	Polymeric mixture containing organic solvents	
CHEMICAL FAMILY	Moisture pressure sensitive coatings	
FORMULA	N/A	

SECTION 2 – HAZARDOUS INGREDIENTS

<u>CHEMICAL COMMON NAME(S)</u>	<u>CAS. #</u>	<u>TLV</u>	<u>VAPOR PRESSURE @ 20°</u>	<u>LEL</u>	<u>UEL</u>	<u>FLASH POINT DEG. F</u>
Acetone	67-64-1	750ppm	185 mmHg	2.6	12.8	-4 (TCC)
N-Hexane	110-54-3	50ppm	140 mmHg	1.2	7.5	0 (COC)
Dimethyl Ether	115-10-6	1000ppm	71 psig	3.4	18.0	-42 (TOC)

NOTE: Refer to Section 8 for content breakdown and SARA Title III information.

N/A = Not Available and/or Not Applicable

BOILING POINT (Deg. F) Concentrate Range: 149 – 159

SECTION 3 – PHYSICAL & CHEMICAL CHARACTERISTICS (Fire & Explosion)

SPECIFIC GRAVITY (Water = 1)	Propellant: -13.0 Concentrate: .75 Propellant: .66
VAPOR PRESSURE (mmHg)	See Section 2
VOC % BY WEIGHT	< 75%
VAPOR DENSITY (Air = 1)	> 1
EVAPORATION RATE (BA = 1)	> 1
SOLUBILITY IN WATER	Negligible
REACTIVITY IN WATER	None
APPEARANCE AND ODOR	CONCENTRATE: Light brown liquid with a characteristic odor PROPELLANT: Colorless, odorless gas FINISHED PACKAGE: Pressurized containers
FLASH POINT	See Section 2
FLAMMABLE LIMITS IN AIR	
% BY VOLUME	See Section 2
EXTINGUISHER MEDIA	Dry chemical, carbon dioxide, foam
AUTO-IGNITION TEMPERATURE	Unknown

UNUSUAL FIRE AND
EXPLOSION HAZARDS

build-up and possible bursting when exposed to high temperatures. Firemen should wear self-contained, positive pressure respiratory protection.

EXTREMELY FLAMMABLE. Contents under pressure. Do not use or store near heat, open flame or ignition sources. Containers may burst at temperatures above 130°F.

SECTION 4 – PHYSICAL HAZARDS

STABILITY
CONDITIONS TO AVOID

Stable
Avoid any excessive heat, ignition sources, open flames, or other high temperatures which induce thermal decomposition.

INCOMPATIBILITY
(Materials to Avoid)
HAZARDOUS DECOMPOSITION PRODUCTS
HAZARDOUS POLYMERIZATION

Oxidizing agents.
Carbon monoxide, carbon dioxide
Will not occur.
Conditions to avoid: Not Applicable

SECTION 5 – HEALTH HAZARDS

THRESHOLD LIMIT VALUE
SIGNS AND SYMPTOMS OF EXPOSURE

See Section 2
EYE CONTACT: Can cause irritation, redness, tearing, blurred vision. Vapors may irritate eyes
SKIN CONTACT: Excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness, and even asphyxiation. Overexposure may cause damage to the nervous system
INGESTION: If aspirated (liquid enters the lungs), it may be readily absorbed through the lungs and result in injury to other body systems.

CHRONIC EFFECTS: THIS PRODUCT CONTAINS N-HEXANE. OVEREXPOSURE TO N-HEXANE MAY CAUSE PROGRESSIVE AND POTENTIALLY IRREVERSIBLE DAMAGE TO THE PERIPHERAL NERVOUS SYSTEM, PARTICULARLY IN THE ARMS AND LEGS.

SIMULTANEOUS EXPOSURE TO THE VAPORS OF N-HEXANE AND METHYL ETHYL KETONE "MEK" OR TO N-HEXANE AND METHYL ISOBUTYL KETONE "MIBK" ABOVE THE RECOMMENDED WORKPLACE LIMITS INCREASES THE RISK OF ADVERSE EFFECTS FROM N-HEXANE. EVIDENCE IN LABORATORY ANIMALS AND HUMANS INDICATES THAT IN THE PRESENCE OF MEK OR MIBK, THE NEUROPATHY ASSOCIATED WITH N-HEXANE IS PRODUCED IN A SHORTER PERIOD OF TIME OR AT LOWER EXPOSURE CONCENTRATIONS. THERE IS NO REPORTED HUMAN EVIDENCE THAT THESE NEUROTOXIC EFFECTS OCCUR WHEN EXPOSURE TO THESE CHEMICALS IS MAINTAINED BELOW ESTABLISHED OSHA AND ACGIH LIMITS.

IMPORTANT NOTICE: REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENT MAY LEAD TO PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. EYE WATERING, HEADACHES, NAUSEA, DIZZINESS, AND LOSS OF COORDINATION ARE SIGNS THAT SOLVENT LEVELS ARE TOO HIGH. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

CHEMICAL LISTED AS CARCINOGEN
OR POTENTIAL CARCINOGEN

NATIONAL TOXICOLOGY PROGRAM: No
I.A.R.C. MONOGRAPHS: No
OSHA: NO
See Section 2

OSHA PERMISSIBLE EXPOSURE LIMIT

EMERGENCY AND FIRST AID PROCEDURE

- | | |
|---------------|---|
| 1. INHALATION | Remove to fresh air. If not breathing, give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen. Call physician. |
| 2. EYES | Flush with flowing water immediately and continuously for 15 minutes. Consult medical personnel. |
| 3. SKIN | Wash off in flowing water or shower. Remove contaminated clothing and wash before reuse. |
| 4. INGESTION | Do not induce vomiting. Call a physician immediately. |

SECTION 6 – SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	NIOSH or Bureau of Mines approved organic vapor-type respirator is required in absence of proper environmental control.
VENTILATION	LOCAL EXHAUST: To keep below TLV. MECHANICAL (General): To keep below TLV. SPECIAL: None OTHER: None
PROTECTIVE GLOVES	Solvent resistant gloves – impervious gloves
OTHER PROTECTIVE CLOTHING OR EQUIPMENT	None reasonably foreseeable

SECTION 7 – SPECIAL PRECAUTIONS & SPILL/LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	Do not store above 120°F. Avoid breathing vapors. Vapors are heavier than air and will collect in low areas.
OTHER PRECAUTIONS	extremely flammable. Contents under pressure. Do not puncture or incinerate. Avoid skin contact.
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	SMALL SPILLS: Remove ignition sources. Mop up, wipe up, or soak up immediately. Use proper protective equipment. LARGE SPILLS: Evacuate area. Remove ignition sources. Contain liquid; transfer to closed containers; keep out of water supplies. Use proper protective equipment.
WASTE DISPOSAL METHODS	Dispose in accordance with Federal, State, and Local regulations. Do not incinerate closed or empty containers.
CHEMICAL	APPROX. SUBJECT TO SECTION 313

SECTION 8 – PERCENTAGE OF HAZARDOUS INGREDIENTS

<u>COMMON NAME(S)</u>	<u>CAS. #</u>	<u>% WT.</u>	<u>OF SARA TITLE III</u>
Acetone	67-64-1	10 – 20	NO
N-Hexane	110-54-3	25 – 35	NO
Dimethyl Ether	115-10-6	30 – 40	NO

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH,
BUT NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE.

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Date Prepared: 08-18-08

Product Identifier: **Big Blu Leak Detector Solution**

Manufacturers Part # RT100S, G or D

General Use: Bubble Leak Detector Solution

Chemical Family: Aqueous Mixture

Manufacturer Refrigeration Technologies (www.refrigtech.com)

2572 Fender Ave Bldg "C"

Fullerton, CA 92831

Ph: (800) 869-1407, 714-870-8361 Fax: 714-526-4598

24 HR Emergency Phones: Chem-Tel, Inc. (800) 255-3924; International: (813) 248-0585

SECTION 2 - HAZARDOUS INGREDIENTS

Hazardous Components	CAS#	WEIGHT %	TWA	PEL	TLV	STEL	EINECS#
----------------------	------	----------	-----	-----	-----	------	---------

This product does not contain any reportable hazardous components.

RISK PHRASE: R36, Irritating to Eyes

SECTION 3 - HAZARDOUS IDENTIFICATION

HMIS: H=0, F=0, R=0, S=0

Emergency Overview: Eye Irritation. Possible Skin Irritation

Potential Health Effects:

EYES: Irritation or Burning Sensation

SKIN: Irritation possible with sensitive persons

INGESTION: Irritation to nausea.

INHALATION: Not expected to be a hazard

Carcinogenic: No NTP? No IARC Monographs? No OSHA Regulated? No

SECTION 4 - FIRST AID MEASURES:

EYES: Flush with water for 15 minutes. If irritation persists, call physician

SKIN: Wash off with soap and water.

INGESTION: Drink large amounts of water. Call physician

INHALATION: Get person to fresh air. Call physician

SECTION 5 - FIRE AND EXPLOSION HAZARD DATA

NFPA Hazard Rating: H=0, F=0, R=0, S=0

Flash Point: None Flammable Limits: Not Tested LEL: Not Tested UEL: Not Tested

Extinguishing Media: Water, CO2 or Dry Foam Special Fire Fighting Procedures: None

Unusual Fire and Explosion Hazards: None

Hazardous Combustion Products: Hydrocarbons, CO, CO2

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled: Soak up with inert, absorbent material. Scoop up and place in a proper waste disposal container. Dispose of in accordance with federal, state and local regulations.

SECTION 7 - HANDLING AND STORAGE

Precautions to be taken in handling and storing: Store in a cool, dry place, out of direct sunlight. Do not freeze or heat above 120 F. Keep container closed.

Other precautions: KEEP OUT OF REACH OF CHILDREN

SECTION 8 - EXPOSURE/CONTROL MEASURES

Respiratory Protection: Open all doors and windows. If there is an exposure and it is above the TLV or PEL, a NIOSH approved respirator equipped for the exposure or suitable respiratory protection per 29 CRF 1910.134 is required

Ventilation: Local Exhaust: If available Special: None

Mechanical: If available Other: None

Protective Gloves: Plastic or Rubber, Chemical Resistant

Eye Protection: Glasses, Goggles

Other Protective Clothing or Equipment: None

Work Hygienic Practices: Use common sense and care around chemicals. Never mix chemicals. Consult your supervisor for other practices. All practices depend on your specific business. Directions for use are normally found on label that will dictate engineering and control measures.

PAGE 2: MSDS Big Blu, RT100S, G or D

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

Boiling Point >212F/100C	Specific Gravity: 1.04
Vapor Pressure: Not Tested	pH: 7-8
Vapor Density: Not Tested	Evaporation Rate: Not Tested
Solubility in Water: Complete	Appearance and Odor: Blue, Bland
Viscosity: Not tested	Freeze Point: 32F/0C

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable
Conditions to Avoid: None
Incompatible Materials to Avoid: None
Hazardous Decomposition or Byproducts: CO, CO2
Hazardous Polymerization: Will not occur

SECTION 11 - TOXICOLOGICAL INFORMATION

Hazardous Components	CAS#	EINECS#	LC50 Inhaled	LD50 oral	LD50 dermal
None	NA	NA	NE	NE	NE

Possible effects of exposure are:

EYES: May cause mild to severe eye irritation
SKIN: Slight irritant to skin in sensitive individuals
SKIN ABSORPTION: None to Slight
INHALATION: If heated excessive inhalation of vapors can cause nasal and respiratory irritation.
INGESTION: May cause gastrointestinal distress/irritation.
CHRONIC EFFECTS: None known to occur.

SECTION 12 - ECOLOGICAL INFORMATION

Product is composed of readily biodegradable ingredients. None of the components are known to have aquatic toxicity. Always prevent chemicals from entering watercourses, sewer or drain without proper authorization

SECTION 13 - DISPOSAL CONSIDERATIONS

Always follow Federal, State and Local codes before disposal of any chemicals. Consult with an expert in your area on proper disposal methods. Chemicals should never be allowed to enter sewers, watercourses or low areas without proper authorization. Empty containers should be thoroughly rinsed and offered for recycling.

SECTION 14 - TRANSPORTATION INFORMATION

DOT: Not Regulated	Proper Shipping Name: Not Regulated
IMDG: Not Regulated	Proper Shipping Name: Not Regulated
IATA: Not Regulated	Proper Shipping Name: Not Regulated

SECTION 15 - REGULATORY INFORMATION

SARA/CERCLA/311: No reportable ingredients. Not subject to any special reporting.
TSCA: Components are listed on the TSCA Inventory
EINECS: N/A
CALIFORNIA PROP 65: No reportable ingredients
CPR: None Listed

IDL: None Listed: "This product MSDS contains all the information required by the CPR."

DSL/NDL: All Listed

RISK PHRASE: R36, Irritating to Eyes

SAFETY PHRASE: S1/2

WHIMIS STATUS: This product does not require hazardous labeling or symbols.

VOC Content: 0 grams/liter

SECTION 16 - OTHER INFORMATION

NSF Registration Number 119847, Non-Food Compound, Category P1

Product may be use around food and on food equipment as per NSF Category P1.

Manufacturer Disclaimer: This information relates to the specific materials designated herein and may not be valid for such materials used in combination with any other material. The information contained in this document is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of this information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information.

Date Prepared: 8-18-08

By: John Pastorello, CEO - Refrigeration Technologies

Material Safety Data Sheet: BIG TEX				Issuing Date 08/19/2008	
Supercedes Date 07/14/2008					
1. PRODUCT AND COMPANY IDENTIFICATION					
Product Name BIG TEX			Product Code 0003		
Recommended Use Cleaning agent			Chemical Nature Aqueous surfactant solution		
Information on Manufacturer			Emergency Telephone Number		
MANTEK, DIVISION OF NCH CORP.			CHEMTREC ® 800-424-9300		
BOX 152170					
IRVING, TEXAS 75015					
2. HAZARDS IDENTIFICATION					
Emergency Overview					
Warning					
Severe skin irritation					
Severe eye irritation					
Harmful by inhalation					
Harmful or fatal if swallowed					
May cause drowsiness and dizziness					
Color Yellow - Green					
Potential Health Effects			Physical State Liquid		
Principle Route of Exposure			Odor Slight		
Primary Routes of Entry					
Acute Effects					
Eyes			Severe eye irritant.		
Skin			Severe skin irritant.		
Inhalation			Harmful by inhalation. Irritating to respiratory system. Inhalation of vapors in high concentration can cause narcotic effects and metabolic acidosis .		
Ingestion			Harmful or fatal if swallowed. Ingestion may cause irritation to mucous membranes. Acidosis.		
Chronic Effects			Prolonged exposure may cause chronic effects. Bloody urine. Liver and kidney injuries may occur.		
Target Organ Effects			Liver, Kidney, Blood, Central Nervous System , Lungs, spleen, Central nervous system, Hematopoietic System, Respiratory system.		
Aggravated Medical Conditions			Skin disorders. Respiratory disorders. Central nervous system. None known . Kidney disorders. Liver disorders. Pre-existing respiratory and skin conditions such as asthma, emphysema, and dermatitis. . Respiratory system.		
Interactions with Other Chemicals			Use of alcoholic beverages may enhance toxic effects.		
Potential Environmental Effects			See Section 12 for additional Ecological information		
3. COMPOSITION / INFORMATION ON INGREDIENTS					
Component			CAS-No		
2-Butoxyethanol			111-76-2		
Trisodium phosphate			7601-54-9		
Sodium metasilicate			6834-92-0		
Benzenesulfonic acid, mono-C10-16 alkyl derivatives, sodim salts			68081-81-2		
4. FIRST AID MEASURES					
General Advice			Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist .		
Eye Contact			Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately.		
Skin Contact			Remove/Take off immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately.		
Inhalation			Move to fresh air. In case of shortness of breath, give oxygen. If breathing has stopped, apply artificial respiration. Get medical attention immediately.		
Ingestion			Drink 1 or 2 glasses of water. Do not induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.		
Notes to Physician			Treat symptomatically		
5. FIRE-FIGHTING MEASURES					
Flash Point			> 201°F / > 94°C		Method
Autoignition Temperature			No information available		Seta closed cup
Flammability Limits in Air			2-Butoxyethanol		Upper 10.6
Suitable Extinguishing Media					Lower 1.1
Carbon dioxide (CO2). Foam. Dry chemical. Alcohol-resistant foam . Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.					
Specific Hazards Arising from the Chemical					
Material can create slippery conditions.					
Protective Equipment and Precautions for Firefighters					
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear					
NFPA	Health	2	Flammability	1	Instability 0
HMIS	Health	2	Flammability	1	Instability 0
6. ACCIDENTAL RELEASE MEASURES					
Personal Precautions			Use personal protective equipment. Prevent further leakage or spillage if safe to do so. Material can create slippery conditions.		
Environmental Precautions			Do not flush into surface water or sanitary sewer system.		
Methods for Containment			Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13)		

0003 - BIG TEX

Issuing Date 19-Aug-2008

Methods for Cleaning Up

Dam up. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13). Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling

Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist .

Storage

Store in original container. Keep container tightly closed in a dry and well-ventilated place. Do not freeze.

Storage Temperature

Minimum35°F / 2°CMaximum120°F / 49°C

Storage Conditions

IndoorXOutdoorHeatedRefrigerated

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
2-Butoxyethanol	TWA: 20 ppm	TWA: 240 mg/m ³ TWA: 50 ppm Skin	IDLH: 700 ppm TWA: 5 ppm TWA: 24 mg/m ³
Trisodium phosphate	No data available	no data available	no data available
Sodium metasilicate	No data available	no data available	no data available
Benzenesulfonic acid, mono-C10-16 alkyl derivatives, sodim salts	No data available	no data available	no data available

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/Face Protection

Goggles.

Skin Protection

Impervious gloves.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General Hygiene Considerations

Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	Viscosity	Non viscous
Color	Yellow - Green	Odor	Slight
Appearance	Transparent	pH	12.4
Specific Gravity	1.04	Bulk Density	8.67
Evaporation Rate	0.54 (Butyl acetate=1)	Percent Volatile (Volume)	96
VOC Content (%)	3.8	Vapor Pressure	16.57 mmHg @ 70 °F
Vapor Density	0.6	Solubility	Completely soluble
Boiling Point/Range	210°F / 99°C		

10. STABILITY AND REACTIVITY

Chemical Stability

Stable under normal conditions

Conditions to Avoid

Gives off hydrogen by reaction with metals.

Incompatible Products

Avoid radical-forming starting agents, peroxides and reactive metals. Acids. Ammonium salts.
Strong oxidizing agents.

Hazardous Decomposition Products

Carbon oxides. Organic acids. Ketones. Aldehydes. Hydrogen.

Possibility of Hazardous Reactions

None under normal processing

11. TOXICOLOGICAL INFORMATION

Product Information

No information available

Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
2-Butoxyethanol	470 mg/kg (Rat)	220 mg/kg (Rabbit) 2270 mg/kg (Rat)	no data available	no data available	no data available
Trisodium phosphate	2000 mg/kg (Rat)	2 mg/kg (Rabbit)	2.16 mg/L (Rat) 1 h	no data available	no data available
Sodium metasilicate	600 mg/kg (Rat)	no data available	no data available	no data available	no data available
Benzenesulfonic acid, mono-C10-16 alkyl derivatives, sodim salts	no data available	no data available	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
2-Butoxyethanol	no data available	no data available	no data available	Male reproductive toxin.	liver, kidneys, lymphoid system, skin, blood, eyes, respiratory system, CNS, hematopoietic system, spleen
Trisodium phosphate	no data available	no data available	no data available	no data available	no data available
Sodium metasilicate	no data available	no data available	no data available	no data available	no data available
Benzenesulfonic acid, mono-C10-16 alkyl derivatives, sodim salts	no data available	no data available	no data available	no data available	no data available

Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Other
2-Butoxyethanol	A3	not applicable	not applicable	not applicable	not applicable
Trisodium phosphate	not applicable	not applicable	not applicable	not applicable	not applicable
Sodium metasilicate	not applicable	not applicable	not applicable	not applicable	not applicable
Benzenesulfonic acid, mono-C10-16 alkyl derivatives, sodim salts	not applicable	not applicable	not applicable	not applicable	not applicable

12. ECOLOGICAL INFORMATION

Product Information No information available

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
2-Butoxyethanol	no data available	LC50= 1490 mg/L Lepomis macrochirus 96 h	no data available	LC50 1698 - 1940 mg/L 24 h EC50 = 1720 mg/L 24 h	0.81
Trisodium phosphate	no data available	no data available	no data available	no data available	N/A
Sodium metasilicate	no data available	LC50= 210 mg/L Brachydanio rerio 96 h	no data available	EC50 = 216 mg/L 96 h	N/A
Benzenesulfonic acid, mono-C10-16 alkyl derivatives, sodim salts	no data available	no data available	no data available	no data available	N/A

Persistence and Degradability No information available

Bioaccumulation No information available

Mobility No information available

13. DISPOSAL CONSIDERATIONS

Product Disposal Dispose of in accordance with local regulations
Container Disposal Empty containers should be taken for local recycling, recovery or waste disposal

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

Inventories

TSCA Complies

DSL Complies

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372:

Component	CAS-No	Weight %	SARA 313 - Threshold Values
2-Butoxyethanol	111-76-2	1-5	1.0

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	Yes	No	No	No

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
2-Butoxyethanol	Not applicable	Not applicable
Trisodium phosphate	5000 lb	Not applicable
Sodium metasilicate	Not applicable	Not applicable
Benzenesulfonic acid, mono-C10-16 alkyl derivatives, sodim salts	Not applicable	Not applicable

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D2B Toxic materials .



16. OTHER INFORMATION

Prepared By Kamal Singh
Supersedes Date 07/14/2008
Issuing Date 08/19/2008
Reason for Revision No information available
Glossary No information available
List of References TBD

MANTEK, DIVISION OF NCH CORP. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product. The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

MATERIAL SAFETY DATA SHEET

**BIRD-X INC., BIRD PROOF
TRANSPARENT BIRD REPELLENT LIQUID**

**BIRD-X
BIRD-PROOF**



Bird-X, Inc.
300 N. Oakley Blvd.
Chicago, IL 60612

PHONE 312-226-2473
FAX 312-226-2480

SECTION 1 • IDENTIFICATION

IDENTITY:

BIRD-X, INC. TRANSPARENT BIRD REPELLENT

EPA Registration No. 8254-3-8708

ACTIVE INGREDIENT CHEMICAL NAME: Polybutene

CHEMICAL FAMILY: Petro Chemical

Marketed by:

BIRD-X, INC.

300 N. Oakley Blvd.

Chicago, IL 60612

Prepared by: Bart Baker Date Prepared: March 1, 2010

HMIS Rating: Health: 1*
Flammability: 1
Reactivity: 0
Personal Protection: Safety glasses.

Emergency Telephone Number: National Pesticide Information Center (NPIC) at **1-800-858-7378**

Telephone Number for Information:

9 AM to 5 PM CST - 312-226-2480

SECTION 2 HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	CAS NUMBER	PEL	STEL	<-OSHA LIMITS -> CEILING	ACGIH TLV	OPTIONAL %
BIRD-X INC., BIRD PROOF Transparent Bird Repellent Liquid is not a hazardous material as defined in 29 CFR 1910.1200.		N/A	N/A	N/A	N/A	N/A

SECTION 3 • PHYSICAL / CHEMICAL DATA

BOILING POINT: (F): 212° F

VAPOR PRESSURE: (mm hg): 1 MM HG @ 100° F

VAPOR DENSITY: (AIR = 1): N/A

SOLUBILITY IN H₂O: Negligible/Dispersible

APPEARANCE / ODOR: White milky liquid. Slight petroleum odor.

BULK DENSITY: N/A

MELTING POINT: Liquid at ambient temperatures.

EVAPORATION RATE (Butyl Acetate = 1): Negligible

% VOLATILE: 2%

SPECIFIC GRAVITY (H₂O = 1): 0.89

SECTION 4 • FIRE & EXPLOSION HAZARD DATA

FLASH POINT (Method Used) - >378° F ASTM D 93

FLAMMABLE LIMITS: N/A LEL: N/A UEL: N/A

EXTINGUISHING MEDIA: Foam, CO₂, dry chemical, water. Apply to burning area.

SPECIAL FIRE FIGHTING PROCEDURES: Material will flow when hot. Contain material to reduce spread. Fire fighters should wear full bunker gear, including a positive pressure self contained breathing apparatus.

UNUSUAL FIRE & EXPLOSION HAZARDS: Respiratory and eye protection is required.

SECTION 5 • REACTIVITY DATA

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID: None

INCOMPATIBLE MATERIALS: None

HAZARDOUS POLYMERIZATION: None. Incomplete burning can produce carbon monoxide, carbon dioxide and other harmful products.

SECTION 6 • HEALTH HAZARD DATA

ROUTES OF ENTRY:	INHALATION?	SKIN?	INGESTION?	NTP?	IARC MONOGRAPH?	OSHA REGULATED?
	NO	YES	NO	NO	NO	NO

HEALTH HAZARDS (ACUTE and CHRONIC): No significant health hazards exist at ambient temperatures. Redness and irritation may occur on contaminated skin and eye contact may be slightly irritating, but product does not cause long term adverse health effects. For hot product, cool immediately and treat as a burn.

CARCINOGENICITY: **None known.**

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

EMERGENCY FIRST AID PROCEDURES

Wash exposed areas with a mild solvent (baby oil or mineral spirits) followed by soap and water.

SECTION 7 • PRECAUTIONS FOR SAFE HANDLING

IN CASE MATERIAL IS RELEASED OR SPILLED: Spills can be contained and removed with absorbent material such as sand and washed with hydrocarbon solvent (mineral spirits), or detergent. Remove sources of ignition.

WASTE DISPOSAL METHOD: Incinerate or dispose of in a landfill unless otherwise prohibited by applicable ordinances.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Keep away from children, domestic animals, and pets.

SECTION 8 • CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): None, avoid inhaling mist during application.

VENTILATION: LOCAL EXHAUST: None
SPECIAL: None
MECHANICAL EXHAUST: None
OTHER: None

PROTECTIVE GLOVES: None needed except for worker comfort.

SAFETY GLASSES: Safety glasses as needed for other activities.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: None

WORK/HYGENIC PRACTICES: Wash hands thoroughly, standard good practices.

SECTION 9 • CALIFORNIA ADDENDUM**(PROPOSITION 65) SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986**

The following specific warnings are hereby given relative to substances that the State of California has identified as carcinogens and/or reproductive hazards under Proposition 65: None

WARNING: N/A

WARNING: N/A

SECTION 10 • SARA TITLE III HAZARD CATEGORY

For Reporting Under Sections 311 & 312

Immediate - NO Delayed - NO Fire - NO Reactive - NO Sudden Release of Pressure - NO

SARA Title III Category: This product does not contain any chemicals subject to the reporting requirements of SARA Section 313.

SECTION 11 • SHIPPING INFORMATION

HAZARD CLASS: NOT D.O.T. Regulated

BILL OF LADING DESCRIPTION: Vermin Exterminators, NOI

Manufacturer makes no warranty, express or implied, other than indicated on Label and MSDS. Customer assumes all risk of use and/or handling of this material when such use and / or handling is contrary to Label and MSDS.

All information contained in this Material Safety Data Sheet is furnished free of charge and is intended for your evaluation. In our opinion the information is, as of the date of this Material Safety Data Sheet, reliable, however, it is your responsibility to determine the suitability of the information for your use. You are advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional or variable conditions or circumstances exist or because of applicable laws or government regulations. Therefore, you should use this information only as a supplement to other information gathered by you and you must make independent determinations of the suitability and completeness of the information from all sources to assure both proper use of the material described herein and the safety and health of employees. Accordingly, no guarantee expressed or implied is made by BIRD-X, Inc. as to the results to be obtained based upon your use of the information nor does BIRD-X, Inc. assume any liability arising out of your use of the information.




MATERIAL SAFETY DATA SHEET

5100 W. Henrietta Rd.
West Henrietta, NY 14586
TEL: (866) 260-0501

9701204
MSDS No. 9701206 9701207
Effective Date: December 1, 2005

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	Biuret Test Reagent	416-984-3000 NFPA  HAZARD RATING Minimal Slight Moderate Serious Severe 0 1 2 3 4 WHMIS 3 4
Chemical Synonyms	Biuret Solution For Protein Test	
Formula	Mixture.	
CAS No.	Mixture.	

SECTION II DANGEROUS INGREDIENTS

Name	%	TLV Units
Sodium hydroxide: (CAS No.: 1310-73-2)	6.42%	C 2 mg/m ³
Potassium sodium tartrate: (CAS No.: 6381-59-5)	1.65%	N/A
Cupric sulfate: (CAS No.: 7758-99-8)	1.18%	1 mg/m ³
Potassium iodide: (CAS No.: 7681-11-0)	0.35%	N/A
Ethylenediaminetetraacetic acid: (CAS No.: 6381-92-6)	0.02%	N/A
Water: (CAS No.: 7732-18-5)	90.38%	N/A
DANGER! CORROSIVE! POISON!		

SECTION III PHYSICAL DATA

Melting Point (°C)	~ 0°C	Specific Gravity (H ₂ O = 1)	~ 1.1
Boiling Point (°C)	~ 110°C	Percent Volatile by Volume (%)	90.38%
Vapor Pressure (mm Hg)	14 (water)	Evaporation Rate (Water = 1)	< 1
Vapor Density (Air=1)	0.7 (water)		
Solubility in Water	Soluble.		
Appearance & Odor	Blue liquid; no odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash point	N/A	Flammable Limits in Air % by Volume	N/A	Lower	Upper
Firefighting Procedures	Use dry chemical, CO ₂ , alcohol foam, or water spray. In fire conditions, fire-fighters should wear an appropriate mask or a self-containing breathing apparatus.				

Flammability and Explosion Hazards

Will release flammable and explosive hydrogen gas when in contact with aluminum, lead, tin, zinc and other alloys.

TDG Class 8 Corrosive liquid. UN1760

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. For laboratory use only. Not for drug, food or household use. Keep out of reach of children. Printed on recycled paper.

SECTION V REACTIVITY DATA

BB0150

Chemical Stability	Yes	X	If no, under what conditions?
	No		
Incompatible with Other products	Yes	X	Acids, oxidizing materials, metals.
	No		
Hazardous Decomposition Products	These products are carbon oxides, oxides of sulfur, iodine and copper fumes.		
Reactive under what conditions	Will release flammable and explosive hydrogen gas when in contact with aluminum, lead, tin, zinc and other alloys.		

SECTION VI TOXICOLOGICAL PROPERTIES

Route of Entry	Ingestion. Skin.
TLV	There are no TWA established by ACGIH 2001 for this mixture.
Toxicity for animals	N/A
Chronic effects on humans	There are no known effects from chronic exposure to this product. Target organs: None known.
Acute effects on humans	May be fatal if swallowed. Causes severe burns.

SECTION VII PREVENTIVE MEASURES

Waste Disposal	Discharge, treatment, or disposal may be subject to local laws. Consult your local or regional authorities.
Storage	Keep container in a cool, well ventilated place. Keep away from heat and incompatible materials. Keep container tightly closed.
Precautions	Avoid contact with skin and eyes. Do not breathe vapors or spray. Use with adequate ventilation. Do not ingest.
Spill or leak	Dilute with water and mop up or absorb with an inert dry material and place in an appropriate waste disposal container. Wash spill area with soap and water.
Protective Clothing	Splash goggles, lab coat, vapor respirator, gloves.

SECTION VIII FIRST AID MEASURES

Specific first aid measures	Ingestion: Call physician or Poison Control Center immediately. Induce vomiting only if advised by the appropriate medical personnel. Eye contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention. Skin contact: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Inhalation: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Allow victim to rest in a well ventilated area. Seek immediate medical attention.
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SECTION IX PREPARATION OF THE MSDS

Rev. No.	3	Date	December 1, 2005	Approved	Michael Raszeja
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SECTION I Identification

Produit	Réactif d'essai de biuret
Synonymes	Solution de biuret pour l'essai de protéine
Formule	Mélange.
# CAS	Mélange.

Telephone D'urgence

416-984-3000			Santé		3
NFPA			Flammabilité		0
			Reactivité		2
Niveau de risque			WHMIS		
Minimal	Léger	Modéré	Sérieux	Sévère	
0	1	2	3	4	

SECTION II Ingrédients Dangereux

Nom	%	TWA
Hydroxyde de sodium: (CAS No.: 1310-73-2)	6,42%	C 2 mg/m ³
Tartrate disodique de potassium: (CAS No.: 6381-59-5)	1,65%	Sans objet.
Sulfate de cuivre: (CAS No.: 7758-99-8)	1,18%	1 mg/m ³
Iodure de potassium: (CAS No.: 7681-11-0)	0,35%	Sans objet.
Acide d'éthylenediaminetetraacétique: (CAS No.: 6381-92-6)	0,02%	Sans objet.
Eau: (CAS No.: 7732-18-5)	90,38%	Sans objet.
DANGER! CORROSIF! POISON!		

SECTION III Caractéristiques Physiques

Point de fusion (°C)	~ 0°C	Gravité spécifique (Eau = 1)	~ 1,1
Point d'ébullition (°C)	~ 110°C	Volatilité % par volume	90,38%
Tension de vapeur (mm Hg)	14 (l'eau)	Taux d'évaporation (Eau = 1)	< 1
Densité de la vapeur (Air=1)	0,7 (l'eau)		
Solubilité	Soluble.		
Odeur et apparence	Liquide bleu; inodore.		

SECTION IV Risques D'incendie ou D'explosion

Point d'éclair	Sans objet.	Limites d'inflammabilité % par volume	Sans objet.	Seuil minimal	Seuil maximal
Moyens d'extinction					

Utiliser des poudres chimiques sèches, du CO₂, une mousse d'alcool ou de l'eau pulvérisée. En cas de feu, sapeur-pompier devra porter en masque adéquate ou un respirateur autonome.

Inflammabilité et risques d'explosion

Libérera le gaz d'hydrogène inflammable et explosif quand en contact avec l'aluminium, le fil, l'étain, le zinc et d'autres alliages.

TMD Classe 8 Liquide corrosif. UN1760

Au meilleur de nos connaissances, l'information contenue dans ce document est exacte. Toutefois, ni le fournisseur ci-haut mentionné ni aucune de ses succursales ne peut assumer quelque responsabilité que ce soit en ce qui a trait à l'exactitude ou à l'état complet de l'information contenue dans ce document. La détermination finale de la convenance de tout matériel ou produit est la responsabilité exclusive de l'utilisateur. Tous les matériaux ou produits peuvent présenter certains risques et devraient être utilisés avec prudence. Bien que certains risques soient décrits dans ce document, nous ne pouvons garantir que ce sont les seuls risques qui existent.

SECTION V Données sur la Réactivité

BB0150

Chimique	oui	X	Si non, dans quelles condition?
Stabilité	non		
Incompatibilité avec d'autres produits	oui	X	Acides, les matières oxydantes, métaux.
	non		
Produits de décomposition dangereux	Ces produits sont des oxydes de carbone, oxydes de soufre, fumées de iode et le cuivre.		
Conditions de Réactivité	Libérera le gaz d'hydrogène inflammable et explosif quand en contact avec l'aluminium, le fil, l'étain, le zinc et d'autres alliages.		

SECTION VI Propriétés Toxicologiques

Voies d'absorption	Ingestion. Le peau.
LMP	Il n'y a aucune TLV établie par ACGIH 2001 pour ce mélange.
Toxicité pour les animaux	Sans objet.
Effets chroniques sur les humains	Il n'y a aucun effet connu dû exposition chronique à ce produit. On ne connaît aucun organe de cible.
Effets aiguë sur les humains	Peut causer la mort en cas d'ingestion. Cause de graves brûlures.

SECTION VII Mesures Préventives

Élimination des résidus	Consulter vos autorités locales ou régionales.
Entreposage	Conserver le récipient dans un endroit frais et bien aéré. Tenir à l'écart de la chaleur et des matières incompatibles. Garder le récipient bien fermé.
Précautions	Éviter tout contact avec la peau et les yeux. Ne pas inhaler les vapeurs ou aérosols. Utilisation avec la ventilation adéquate. Ne pas ingérer.
Déversement ou fuite	Diluer avec de l'eau et absorber avec une moppe, ou absorber avec une substance inerte sèche et mettre dans un contenant de récupération approprié. Bien laver la surface où le solide était répandu avec du savon et de l'eau.
Vêtements de protection	Lunettes anti-éclaboussures, blouse de laboratoire (sarrau), respirateur anti-vapeurs, gants.

SECTION VIII Premiers Soins

Premier Soins Particuliers à Administrer	Ingestion: Consulter un médecin ou le centre de poison commande immédiatement. Induisez le vomissement seulement s'informé par le personnel médical approprié. Contact oculaire: Vérifier si la victime porte des verres de contact et dans ce cas lui les enlever. Rincer les yeux immédiatement à l'eau courante pendant au moins 15 minutes en gardant les paupières ouvertes. Obtenir de l'aide médicale. Contact cutané: Laver doucement et entièrement la peau contaminée à l'eau courante avec un savon doux et non-abrasif. Inhalation: Sortir la victime à l'air frais. Si elle ne respire plus il faut lui donner de la respiration artificielle. Si la respiration est difficile, donnez l'oxygène. Assurez-vous que la victime se repose dans un endroit bien aéré. Obtenir immédiatement de l'aide médicale.
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SECTION IX Renseignements sur la Préparation de la FS

# Rev.	3	Date	1 décembre, 2005	Vérfié par	Michael Raszeja
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MATERIAL SAFETY DATA SHEET

May be used to comply with OSHA's 29 CFR 1910.1200)

IDENTITY (AS USED ON LABEL AND LIST)

Note: blank spaces are not permitted. If any item is not applicable,

DICK BLICK BLACK CAT INDIA INK

or no information available, the space must be marked appropriately.

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

HANDY ART, INC.

(608) 868-6873

MANUFACTURER

TELEPHONE NUMBER FOR INFORMATION

365 SUNNYSIDE DR. P.O. BOX 482

(608) 868-6873

ADDRESS

EMERGENCY TELEPHONE NUMBER

MILTON, WI 53563

JUNE 2014

DATE PREPARED

SECTION 2 - MATERIAL IDENTIFICATION AND INFORMATION

OTHER LIMITS

COMPONENTS: CHEMICAL NAME & COMMON NAMES

%

OSHA PEL

ACGIH TLV

RECOMMENDED

Contains no hazardous substand per OSHA

29 CFR 1910.1200

Material is a water based product with the AP Seal. Products with the AP Approved Products Seal of the Art and Craft Materials Institute Inc. are certified in a program of toxicological evaluation by a medium expert to contain no material in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems. These products are certified by the Institute to be in accordance with the voluntary chronic hazard labeling standard ASTM D-4236.

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT - Range 212 F

SPECIFIC GRAVITY (H₂O = 1) -

Range 1.00-1.10

VAPOR PRESSURE (mm Hg & TEMPERATURE) - N/A

MELTING POINT -

< 32 F

VAPOR DENSITY (AIR=1) - lighter than air

EVAPORATION RATE (WATER = 1) -

Slower than ether

SOLUBILITY IN WATER - dilutable in water

WATER REACTIVE -

N/A

APPEARANCE & ODOR - black, low viscosity, low odor

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT & METHOD USED

FLAMMABILITY LIMITS IN AIR % BY VOLUME

N/A

N/A

EXTINGUISHER MEDIA

LEL

UEL

CO₂, Foam or Water

N/A

N/A

SPECIAL FIRE FIGHTING PROCEDURES

Wear self-contained breathing apparatus (pressure demand, MSHA/NIOSH approved or equivalent) and full protective gear

UNUSUAL FIRE AND EXPLOSION HAZARDS

Material can spatter above 212F. Film can burn.

SECTION 5 - REACTIVITY HAZARD DATA BLACK CAT INDIA INK Page 2 of 2

STABILITY <input checked="" type="checkbox"/> STABLE <input type="checkbox"/> UNSTABLE	CONDITIONS TO AVOID Onset of decomposition 350 F <u>None</u>
INCOMPATIBILITY (MATERIALS TO AVOID) N/A	
HAZARDOUS DECOMPOSITION PRODUCTS N/A	
HAZARDOUS POLYMERIZATION <input type="checkbox"/> MAY OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR	CONDITIONS TO AVOID <u>N/A</u> <u>None known</u>

SECTION 6 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY N/A <input type="checkbox"/> INHALATION <input type="checkbox"/> INGESTION <input type="checkbox"/> SKIN ABSORPTION <input type="checkbox"/> NOT HAZARDOUS	CARCINOGEN LISTED IN N/A <input type="checkbox"/> NTP <input type="checkbox"/> OSHA <input type="checkbox"/> IARC MONOGRAPH <input checked="" type="checkbox"/> NOT LISTED
HEALTH HAZARDS Refer to Section 2	ACUTE CHRONIC
SIGNS AND SYMPTOMS Not known	
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE Not known	
EMERGENCY FIRST AID PROCEDURES - <u>Consult a Physician Immediately.</u>	

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED <u>Usual Clean Up Procedure</u>
WASTE DISPOSAL METHODS <u>Dispose of in accordance with Federal and Local State Regulations</u>
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE <u>Store at room temperature.</u>
OTHER PRECAUTIONS AND/OR SPECIAL HAZARDS <u>Not known</u>

SECTION 8 - CONTROL AND PROTECTIVE MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE) <u>None required</u>			
VENTILATION TO BE USED <u>Adequate</u>	LOCAL EXHAUSE OTHER (SPECIFY)	MECHANICAL (GENERAL)	SPECIAL
PROTECTIVE GLOVES N/A		EYE PROTECTION N/A	
OTHER PROTECTIVE CLOTHING AND EQUIPMENT N/A			
HYGIENIC WORK PRACTICES N/A			

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Brand Name:	Black Gold	Manufacturer:	Pinnacle Oil, Inc.	City:	Indianapolis
Product Name(s):		Address:	5009 W. 81st Street	Zip:	46268
Vacuum Pump Oil		State:	IN	Fax:	(317) 875-0889
		Phone:	(800) 829-8899		
		Emergency Number:	(800) 829-8899		

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component Name:</u>	<u>CAS#:</u>	<u>% Volume:</u>	<u>ACGIH TLV</u>	<u>ACGIH STEL</u>	<u>OSHA PEL</u>
Oil Mist, If Generated	None	N/A	5 mg/m3, 8 hr. TWA	10 mg/m3, 8 hr. TWA	5 mg/m3, 8 hr. TWA
Lubricant Base Oil(Petroleum)	Mixture	100	See Oil Mist, if Generated	See Oil Mist, if Generated	See Oil Mist, if Generated

The base oil for this product can be a mixture of any of the following highly refined petroleum streams:

64741-88-4,64742-01-4,64742-54-7,64742-65-0,64742-47-8,8042-47-5,64742-46-7,64742-52-5,64742-54-7,72623-84-8,72623-85-9,72623-86-0,72623-87-1,178603-63-9,178603-64-0,178603-65-1,178603-66-2, 68037-01-4, 151006-63-2

Note: State, local, or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information. All components are listed on the TSCA inventory.

3. HAZARDS IDENTIFICATION *Potential Health Effects*

Emergency Overview: Oily Liquid with Hydrocarbon Odor. Can cause eye irritation. Can burn in fire, releasing toxic vapors, gases and fumes. Extremely slippery when spilled.

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness, and a burning sensation. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin leading to dermatitis(inflammation). No harmful effects from skin absorption are expected.

Ingestion: No harmful effects expected from ingestion.

Inhalation: No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Chronic Effects: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea and diarrhea.

Potential Environmental Effects: See Ecological Information, See Section 12.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Wipe material from skin and remove contaminated shoes and clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops and persists, seek medical attention.

Inhalation: If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion: First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Note to Physicans: High pressure hydrocarbon injection injuries may produce a substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of the injury. Acute aspirations of large amounts of oil-laden material may product a serious aspiration pneumonia. Patients who aspirate these oils should be

followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

5. FIRE FIGHTING MEASURES

Flash Point: 390F-D92

LEL/UEL % No Data

Auto Igniton Temperature: No Data

OSHA Flammability Class: Not applicable

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area, keep unauthorized personnel out. Stop spill release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Fire and Explosion Hazards: This material may burn, but will not ignite readily. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Section 2 and 8).

Do not wear contaminated clothing or shoes. Use good personal hygiene practices.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

Empty containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Empty drums should be completely drained, properly bunged, and promptly shipped to the supplier or drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Storage temperatures above 113F may lead to thermal decomposition, resulting in the generation of hydrogen sulfide and other sulfur containing gases. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional ventilation of exhaust system may be required.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact and

possible irritation(see manufacturers literature for information on permeability).

Respiratory: A NIOSH certified air purifying respirator with a Type 95(R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits(see Section 2).

General Hygiene Considerations: There are no known hazards associated with this material when used as recommended. The following general hygiene considerations are recognized as common good industrial hygiene practices: Avoid breathing vapor or mist, Avoid contact with eyes and skin, Wash thoroughly after handling and before eating or drinking.

Exposure Guidelines: See Section 2, Composition/Information on Ingredients.

9. PHYSICAL AND CHEMICAL PROPERTIES

NOTE: Unless otherwise stated, values are determined at 20C(68F) and 760mm Hg(1 atm)

Appearance:	Brown	Solubility in Water:	Not soluble		
Odor	Characterisc Petroleum	Flash Point:	390F-D92		
Physical State:	Liquid	Flammable/Explosive Limits(%):	Not determined		
pH:	Not applicable	NFPA Health:	1	HMIS Health:	1
Vapor Pressure(mm Hg):	Not determined	NFPA Flammability:	1	HMIS Fire:	1
Vapor Density(air=1):	Not determined	NFPA Reactivity:	0	HMIS Reactivity:	0
Boiling Point/Range:	Not determined				
Freezing/Melting Point:	Not applicable				

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions to Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid(Incompatible Materials): Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: Combustion can yield aldehydes and carbon, nitrogen, sulfur, phosphorus and zinc oxides. Hydrogen sulfide and alkyl mercaptans may also be released. Thermal decomposition may produce hydrogen sulfide and other sulfur-containing gases at temperatures greater than 113F.

Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteriscs. None of the oils used are listed as a carcinogen by NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Ecological Information: Not Evaluated at this Time

13. DISPOSAL CONSIDERATIONS

Disposal Consideration: This material under most intended uses would become used oil due to contamination by physical or chemical impurities. RECYCLE ALL USED OIL. While being recycle, used oil is regulated by 40 CFR 279. Use resulting in chemical or physical change or contamination may also subject it to regulation as hazardous waste. Under federal regulations, used oil is a solid waste managed under 40 CFR 279. However, in California, used oil is managed as hazardous waste until tested to show it is not hazardous. Consult state and local regulations regarding the proper handling of used oil. In the case of used oil, the intent to discard it may cause the used oil to be regulated as hazardous waste.

14. TRANSPORT INFORMATION

Note: Not classified as hazardous

15. REGULATORY INFORMATION

OSHA Hazard Determination: This material is not known to be hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Inventory: All of the components of this material are listed on the Toxic Chemical Substances Inventory. This product is in compliance with the Toxic Substances Control Act(TSCA).

CERCLA(RQ) : This product is not subject to CERCLA reporting requirements.

SARA 311/312 **Acute Health:** No **Pressure Hazard:** No
 Chronic Health: No **Reactive Hazard:** No
 Fire Hazard: No

SARA 302/304: There are no components in this product on the SARA 302/304 list.

SARA 313, Toxic Component(s): This product does not contain >1.0%(greater than 0.1% for carcinogenic substance) of any chemical substances listed under SARA Section 313.

California Prop 65: Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): -- None Known --
Used engine oils, while not a component of this material, is on the Proposition 65 list of chemicals known to the State of California to cause cancer.

16. OTHER INFORMATION

Disclamation: This information relates only to the specific material designated and may not be valid for such material used for in combination with other materials or in any process. Such information is, to the best of Pinnacle Oil's knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use.

Preparers Info: Pinnacle Oil, Inc. **Date Revised:** 2 /9 /2006 **Date Prepared:** 2 /20/2004

MATERIAL SAFETY DATA SHEET

IDENTITY (AS USED ON LABEL AND LIST)

00711-all codes except:**-1006 -1007 -1016 -1017****-1018 -1026****-1027****-1028****-1059**

May be used to comply with OSHA's 29 CFR 1910.1200

Note: Blank spaces are not permitted. If any item is not applicable,

or no information available, the space must be marked appropriately

DICK BLICK BLICKRYLIC COLORS**SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION****00734-1009 set****ROCK PAINT DISTRIBUTING CORP.****(608) 868-8673**

MANUFACTURER

TELEPHONE NUMBER FOR INFORMATION

365 SUNNYSIDE DR., P.O. BOX 482**(608) 868-8673**

ADDRESS

EMERGENCY TELEPHONE NUMBER

MILTON, WI 53563**DECEMBER 2006**

DATE PREPARED

SECTION 2 - MATERIAL IDENTIFICATION AND INFORMATION

OTHER LIMITS

COMPONENTS: CHEMICAL NAME & COMMON NAMES

%

OSHA PEL

ACGIH TLV

RECOMMENDED

Contains no hazardous substand per OSHA
29 CFR 1910.1200

Material is a water based product with the AP Seal. Products with the AP Approved Products Seal of the Art and Craft Materials Institute Inc. are certified in a program of toxicological evaluation by a medium expert to contain no material in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems. These products are certified by the Institute to be in accordance with the voluntary chronic hazard labeling standard ASTM D-4236. In addition, there is no physical hazard as defined within 29 CFR Part 1910.1200 (c).

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT -	Range 215-225 F	SPECIFIC GRAVITY (H ₂ O = 1) -	Range 1.03-1.68
VAPOR PRESSURE (mm Hg & TEMPERATURE) -	N/A	MELTING POINT -	N/A
VAPOR DENSITY (AIR=1) -	lighter than air	EVAPORATION RATE (WATER = 1) -	Slower than ether
SOLUBILITY IN WATER -	completely soluble in water	WATER REACTIVE -	N/A
APPEARANCE & ODOR -	various colors and odorless		

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT & METHOD USED	FLAMMABILITY LIMITS IN AIR % BY VOLUME	
N/A	N/A	
EXTINGUISHER MEDIA	LEL	UEL
CO ₂ , Foam or Water	N/A	N/A
SPECIAL FIRE FIGHTING PROCEDURES		
None known		
UNUSUAL FIRE AND EXPLOSION HAZARDS		
None		

SECTION 5 - REACTIVITY HAZARD DATA BLICKRYLIC COLORS Page 2 of 2

STABILITY <input checked="" type="checkbox"/> STABLE <input type="checkbox"/> UNSTABLE	CONDITIONS TO AVOID <div style="text-align: center; padding: 5px;">None</div>
INCOMPATABILITY (MATERIALS TO AVOID) N/A	
HAZARDOUS DECOMPOSITION PRODUCTS N/A	
HAZARDOUS POLYMERIZATION <input type="checkbox"/> MAY OCCUR <input type="checkbox"/> WILL NOT OCCUR	CONDITIONS TO AVOID <div style="text-align: center; padding: 5px;">None known</div>

SECTION 6 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENT N/A <input type="checkbox"/> INHALATION <input type="checkbox"/> INGESTION <input type="checkbox"/> SKIN ABSORTION <input type="checkbox"/> NOT HAZARDOUS	CARCINOGEN LISTED IN N/A <input type="checkbox"/> NTP <input type="checkbox"/> OSHA <input type="checkbox"/> IARC MONOGRAPH <input checked="" type="checkbox"/> NOT LISTED
HEALTH HAZARDS Refer to Section 2 <input type="checkbox"/> ACUTE <input type="checkbox"/> CHRONIC	
SIGNS AND SYMPTOMS Not known	
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE Not known	
EMERGENCY FIRST AID PROCEDURES - Consult a Physician Immediately.	

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES

STEPS TO BE TAKEN IS MATERIAL IS SPILLED OR RELEASED Usual Clean Up Procedure
WASTE DISPOSAL METHODS Dispose of in accordance with Federal and Local State Regulations
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE Store at room temperature.
OTHER PRECAUTIONS AND/OR SPECIAL HAZARDS Not known

SECTION 8 - CONTROL AND PROTECTIVE MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE) None required			
VENTILATION TO BE USED None required	<input type="checkbox"/> LOCAL EXHAUSE <input type="checkbox"/> OTHER (SPECIFY)	<input type="checkbox"/> MECHANICAL (GENERAL)	<input type="checkbox"/> SPECIAL
PROTECTIVE GLOVES N/A	EYE PROTECTION N/A		
OTHER PROTECTIVE CLOTHING AND EQUIPMENT N/A			
HYGIENIC WORK PRACTICES N/A			

00711-1026
-1027
-1028

MATERIAL SAFETY DATA SHEET

IDENTITY (AS USED ON LABEL AND LIST)

May be used to comply with OSHA's 29 CFR 1910.1200
 Note: Blank spaces are not permitted. If any item is not applicable

DICK BLICK BLICKRYLIC POLYMER MEDIUM

Other information available: The space must be marked appropriately.

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

ROCK PAINT DISTRIBUTING CORP.	(608) 868-6873
MANUFACTURER	TELEPHONE NUMBER FOR INFORMATION
365 SUNNYSIDE DR. P.O. BOX 482	(920) 563-8545
ADDRESS	EMERGENCY TELEPHONE NUMBER
MILTON, WI 53563	JULY 2007
	DATE PREPARED

SECTION 2 - MATERIAL IDENTIFICATION AND INFORMATION

OTHER LIMITS

COMPONENTS	CHEMICAL NAME & COMMON NAMES	%	OSHA PEL	ACGIH TLV	RECOMMENDED
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Contains no hazardous substance per OSHA
 29 CFR 1940.1200

Material is a water based product with the AP Seal. Products with the AP Approved Products Seal of the Art and Craft Materials Institute Inc. are certified in a program of toxicological evaluation by a medium expert to contain no material in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems. These products are certified by the Institute to be in accordance with the voluntary chronic hazard labeling standard ASTM D-4236. In addition, there is no physical hazard as defined within 29 CFR Part 1910.1200 (c).

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT -	Range 215-225 F	SPECIFIC GRAVITY (H ₂ O = 1) -	Range 1.03-1.68
VAPOR PRESSURE (mm Hg & TEMPERATURE) -	N/A	MELTING POINT -	N/A
VAPOR DENSITY (AIR=1) -	lighter than air	EVAPORATION RATE (WATER = 1) -	lower than ether
SOLUBILITY IN WATER -	completely soluble in water	WATER REACTIVE -	N/A
APPEARANCE & ODOR -	various colors and odorless		

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT & METHOD USED	FLAMMABILITY LIMITS IN AIR % BY VOLUME
N/A	N/A
EXTINGUISHER MEDIA	EXTINGUISHER MEDIA
CO ₂ , Foam or Water	N/A N/A
SPECIAL FIRE FIGHTING PROCEDURES	
None known	
UNUSUAL FIRE AND EXPLOSION HAZARDS	
None	

SECTION 5 - REACTIVITY HAZARD DATA

BLICKRYLIC POLYMER MEDIUM Page 2 of 2

STABILITY CONDITIONS TO AVOID

> STABLE

None

UNSTABLE

INCOMPATIBILITY (MATERIALS TO AVOID)

N/A

HAZARDOUS DECOMPOSITION PRODUCTS

N/A

HAZARDOUS POLYMERIZATION**CONDITIONS TO AVOID**

MAY OCCUR

N/A

None known

WILL NOT OCCUR

SECTION 6 - HEALTH HAZARD DATA**PRIMARY ROUTES OF EN**

N/A

CARCINOGEN LISTED IN

N/A

INHALATION

INGESTION

NTP

OSHA

SKIN ABSORPTION

NOT HAZARDOUS

IARC MONOGRAPH > NOT LISTED

HEALTH HAZARDS

ACUTE

Refer to Section 2

CHRONIC

SIGNS AND SYMPTOMS

Not known

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Not known

EMERGENCY FIRST AID PROCEDURES - Consult a Physician Immediately.**SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES****STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED**

Usual Clean Up Procedure

WASTE DISPOSAL METHODS

Dispose of in accordance with Federal and Local State Regulations

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Store at room temperature.

OTHER PRECAUTIONS AND/OR SPECIAL HAZARDS

Not known

SECTION 8 - CONTROL AND PROTECTIVE MEASURES**RESPIRATORY PROTECTION (SPECIFY TYPE)**

None required

VENTILATION TO BE USED

None required

LOCAL EXHAUSE

OTHER (SPECIFY)

MECHANICAL (GENERAL)**SPECIAL****PROTECTIVE GLOVES**

N/A

EYE PROTECTION

N/A

OTHER PROTECTIVE CLOTHING AND EQUIPMENT

N/A

HYGIENIC WORK PRACTICES

N/A

MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT

MSDS DATE: 08/31/06

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Absorbent Powder (7351, 7353 Bloodborne Pathogen Kits; 7355 Deluxe Cleanup and Absorbent Kit)
SYNONYMS:
PRODUCT CODES:

MANUFACTURED FOR: Impact Products, LLC
ADDRESS: 2840 Centennial Road, Toledo, OH 43617

EMERGENCY PHONE: 800-654-4752
CHEMTREC PHONE:

CHEMICAL NAME:
CHEMICAL FAMILY:
CHEMICAL FORMULA:

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT:</u>	<u>CAS NO.</u>	<u>% WT</u>	<u>TLV/PEL</u>
Petroleum Distillates	68551-17-7		OSHA PEL: 500 ppm ACGIH TLV: 500 ppm
Silica	7631-86-9		OSHA PEL: 5 mg/m ³ ACGIH TLV: 5 mg/m ³
Silica	14808-60-7		OSHA PEL: 0.1 mg/m ³ ACGIH TLV: 0.1 mg/m ³

The following substances are not considered hazardous substances but are listed to assist customers.

Aluminum Magnesium Silicate	12174-11-7
Polyacrylaca, NA Salt	n/a
Cross linked water absorbing Polymer	n/a

SECTION 3: HAZARDS IDENTIFICATION

ROUTES OF ENTRY: Inhalation - Yes Skin - No Ingestion - Yes

POTENTIAL HEALTH EFFECTS

EYES: n/a

SKIN: n/a

INGESTION: n/a

INHALATION: n/a

ACUTE/CHRONIC HEALTH HAZARDS: Acute - None; Chronic - Prolonged exposure to dust may cause eye, nasal or bronchial irritation

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

CARCINOGENICITY

OSHA: No NTP: No IARC: Yes OTHER:

SECTION 4: FIRST AID MEASURES

EYES: Flush with large amounts of water

SKIN: Flush with large amounts of water

INGESTION:

INHALATION: Remove to fresh air. If irritation persists, contact a physician

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS:

FLASH POINT: n/a

METHOD USED:

HMIS HAZARD CLASSIFICATION: HEALTH - 1 FLAMMABILITY - 0 REACTIVITY - 0

EXTINGUISHING MEDIA: Carbon dioxide, dry foam, water spray

SPECIAL FIRE FIGHTING PROCEDURES: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

HAZARDOUS DECOMPOSITION PRODUCTS:

SECTION 6: ACCIDENTAL RELEASE MEASURES

MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT

MSDS DATE: 08/31/06

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:

DISCLAIMER: The information furnished herein is believed to be accurate and represents the best data currently available to us.
No warranty, expressed or implied is made and Impact Products LLC assumes no legal responsibility or liability
resulting from its use.

MATERIAL SAFETY DATA SHEET

N/A=NOT APPLICABLE

EFFECTIVE DATE 5/07

SECTION 1 - PRODUCT IDENTIFICATION**Product Name: BLOT-OUT VOMITUS DEODORANT GRANULES (DO701)****Supplier's Name: Banner Chemical Corp.****Supplier's Address: 111 Hill St.****Orange, N.J. 07050****Chemical Family: CLEANING COMPOUND****Proper Shipping Name: CLEANING COMPOUND****DOT Shipping Hazard: N/A****DOT Labels Required: N/A****EMERGENCY TELEPHONE NUMBER 973/676-2900****HMIS RATING (0-4): HEALTH: 1 FIRE: 0 REACTIVITY: 0****SECTION 2 - HAZARDOUS INGREDIENTS**

CHEMICAL NAME	CAS NO.	% (optional)	TLV(ACGIH)
Silica, crystalline (quartz)	14808-60-7	less than 1	0.1 mg/M ³

SECTION 3 - PHYSICAL DATA**BOILING POINT: N/A****VAPOR PRESSURE (mmHg @ 20°C): N/A****VAPOR DENSITY (air=1): N/A****SPECIFIC GRAVITY: N/A****PHYSICAL DESCRIPTION: Tan/dark brown granules; slightly perfumed.****pH: N/A****SOLUBILITY IN WATER: Insoluble****EVAPORATION RATE: N/A****% VOLATILE BY VOLUME: 1****SECTION 4 - FIRE and EXPLOSION DATA****FLASH POINT: N/A****FLAMMABLE LIMITS: N/A****EXTINGUISHING MEDIA: Media proper to primary cause of fire.****SPECIAL FIREFIGHTING PROCEDURES: N/A****UNUSUAL FIRE & EXPLOSION HAZARD: N/A****SECTION 5 - HEALTH HAZARD DATA****THRESHOLD LIMIT VALUE: 5 mg/M³****EFFECTS OF OVEREXPOSURE: Dust may cause eye and respiratory irritation. Repeated inhalation of dust in excess of TLV over an extended period of time may result in injury to lungs.****EMERGENCY & FIRST AID PROCEDURES: EYES: Wash with plenty of water for at least 15 min.****INHALATION: Remove victim to fresh air. Give artificial respiration as needed. Never give anything by mouth to an unconscious person. In all cases consult a physician.****SECTION 6 - REACTIVITY DATA****STABILITY: Stable under normal conditions****SECTION 7 - SPILL or LEAK PROCEDURES****SPILLAGE: Vacuum and place in a closed container.****INCOMPATIBILITY: Polyunsaturated liquids produce heat.****WASTE DISPOSAL METHOD: In a manner consistent with federal, state and local regulations.****HAZARDOUS DECOMPOSITION PRODUCTS: None known****HAZARDOUS POLYMERIZATION: Will not occur****SECTION 8 - SPECIAL PROTECTION INFORMATION****RESPIRATORY PROTECTION: Dust mask****VENTILATION: Sufficient to maintain dust below TLV****GLOVES: Rubber or plastic coated should be used****EYE PROTECTION: Safety glasses or shield for dust protection.****OTHER PROTECTIVE EQUIPMENT: Clothing cover can be used****SECTION 9 - SPECIAL PRECAUTIONS****Use dustless system for handling. Do not get in eyes or on skin. Wash thoroughly after handling. Use with adequate ventilation. Store away from other chemicals and out of the reach of children. Store in a closed container away from fire and extreme heat. Keep from freezing. Use protective equipment.**

The data and recommendations presented herein are based upon research of others and are believed to be accurate. The manufacturer makes no warranties, express or implied, as to the accuracy, completeness or adequacy of the information contained herein. The manufacturer shall not be liable (regardless of fault) to the vendee, the vendee's employees or anyone for any direct, special or consequential damages arising out of, or in connection with, the accuracy, completeness, adequacy or furnishing such information.



Material Safety Data Sheet

For Health Emergencies: CALL A POISON CONTROL CENTER
For Transportation Emergencies ONLY: Call Chem-Tel
USA, Canada, Puerto Rico, US Virgin Islands: Call 800-255-3924
Outside North America: Call Collect 813-248-0585

Date Prepared
Rev: 14 May 2007
Replaces: 29 Oct 2003

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1 PRODUCT NAME: [Bob Ross® Liquid Base Coats and Gessos](#)

1.2 ITEM NUMBER AND SIZES: [Items Listed in Section 2 below – 118ml, 236ml and 473ml sizes](#)

1.3 COMPANY IDENTIFICATION:

Martin/F. Weber Co.
2727 Southampton Road • Philadelphia, PA 19154 USA
Phone: 215-677-5600 • Fax: 215-677-3336
Email: info@weberart.com • Web: www.weberart.com

SECTION 2 – COMPOSITION INFORMATION

COMPONENT

CAS

MAX. AMOUNT (% Weight)

[Martin/F. Weber Company is a member of the Art & Creative Materials Institute, \(ACMI\) 1280 Main Street, 2nd Floor, PO Box 479, Hanson, MA 02341 USA. ACMI is a non-profit, international organization which tests and evaluates product formulations for toxicity, recommends and requires appropriate labeling. Our art and craft materials are certified by the institute to be labeled in accordance with the voluntary chronic hazard labeling standard, ASTM D-4236 of the American Society for Testing & Materials. This standard is incorporated into the US Federal Hazard Substances Act and it's LHAMA \(Labeling for Hazardous Art Materials\) amendment.](#)

[These products are appropriately labeled with the AP Non-Toxic Seal of ACMI. They have been certified in a program of toxicological evaluation by a medical expert, subject to review by the institute's Toxicological Advisory Board to contain no materials in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems.](#)

Item	Color and Size
R6207	BOB ROSS LIQUID WHITE 236 ML
R6214	BOB ROSS LIQUID WHITE 473 ML
R6227	BOB ROSS LIQUID BLACK 236 ML
R6237	BOB ROSS LIQUID CLEAR 236 ML
R6239	BOB ROSS LIQUID OPAL 236 ML
R6240	BOB ROSS BASE COAT VALUE PACK
R6245	ROSS BRUSH CONDITIONER 118 ML
R6250	BOB ROSS WHITE GESSO 473 ML
R6257	BOB ROSS GRAY GESSO 473 ML
R6262	BOB ROSS BLACK GESSO 473 ML
R6751	ROSS LIQUID ACRYLIC WHITE 118 ML
R6752	ROSS LIQUID ACRYLIC BLACK 118 ML

SECTION 3 – HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Appearance: Various color liquids

Physical State: Liquid

Odor: Characteristic Linseed Oil or Safflower Oil for oil base coats, negligible odor for acrylic base coats and gessos.

Hazards of Product: n/a.

3.2 POTENTIAL HEALTH EFFECTS

EFFECTS OF SINGLE ACUTE OVEREXPOSURE: n/a

CHRONIC, PROLONGED OR REPEATED OVEREXPOSURE: n/a

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: n/a

3. 3 POTENTIAL ENVIRONMENTAL EFFECTS: n/a

SECTION 4 – FIRST AID PROCEDURES

4.1 INHALATION: n/a.

4.2 EYE CONTACT: n/a

4.3 SKIN CONTACT: n/a.

4.4 SWALLOWING n/a.

4.2 NOTES TO PHYSICIAN: n/a

SECTION 5 - FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Identification Number:	n/a
Flash Point – Closed Cup:	>350°F (177°C)
Flash Point – Open Cup:	n/a
Auto-Ignition Temperature:	n/a
Flammable Limits in Air:	n/a

5.2 EXTINGUISHING MEDIA Foam, CO₂, Dry Chemical (Class B) or Halon®

5.3 EXTINGUISHING MEDIA TO AVOID Water for oil base materials

5.4 SPECIAL FIRE FIGHTING PROCEDURES n/a

5.5 SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS As with any fire situation, full face, self contained breathing apparatus and appropriate protective clothing should be worn.

5.6 UNUSUAL FIRE AND EXPLOSION HAZARDS n/a

5.7 HAZARDOUS COMBUSTION PRODUCTS

Under fire conditions, this product may release CO, CO₂, and other decomposition products of undetermined hazard.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Clean up paint or paint mixed with solvents using rags or paper towels. Place in airtight containers for disposal.

SECTION 7 – HANDLING AND STORAGE

7.1 GENERAL HANDLING: After use, wash hands before eating drinking or smoking.

7.2 STORAGE: n/a

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 EXPOSURE LIMITS: n/a

8.2 PERSONAL PROTECTION:

Respiratory Protection: n/a

Ventilation: n/a

Eye Protection: n/a

Protective Gloves: Rubber or vinyl gloves or a barrier cream are useful for general cleanliness

Other Protective Equipment: n/a

8.3 ENGINEERING CONTROLS: n/a

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Various color liquids

Appearance: Liquid

pH: Oil base < 7, Acrylic base and gessos > 7

Solubility in Water (by weight): Oil base – negligible, Acrylic Base - soluble

Odor: Characteristic Linseed Oil or Safflower Oil for oil base coats, negligible odor for acrylic base coats and gessos.

Flash Point – Closed Cup: > 350°F (177°C)

Flash Point – Open Cup: n/a

Percent Volatiles: Non-Volatile

Boiling Point (760mm Hg): n/a

Freezing Point: n/a

Specific Gravity (H₂O = 1): > 1

Vapor Pressure at 20°C: n/a

Vapor Density (air = 1): n/a

Evaporation Rate n/a

(Butyl Acetate = 1):

Melting Point: n/a

Section 10 – STABILITY AND REACTIVITY

10.1 STABILITY / INSTABILITY Stable under ordinary conditions of use and storage

Conditions to Avoid n/a

Incompatible Materials n/a

10.2 HAZARDOUS

POLYMERIZATION	Will not occur
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10.3 INHIBITORS / STABILIZERS	n/a
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SECTION 11 – TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:	n/a
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CHRONIC TOXICITY:	n/a
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SECTION 12 – ECOLOGICAL INFORMATION

12.1 ENVIRONMENTAL FATE	n/a
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12.2 ECOTOXICITY	n/a
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12.3 FURTHER INFORMATION	n/a
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SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 WASTE DISPOSAL METHOD	Dispose of in accordance with local, state and federal regulations
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13.2 DISPOSAL CONSIDERATIONS	n/a
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SECTION 14 – TRANSPORTATION INFORMATION

U.S. D.O.T	n/a
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SECTION 15 – REGULATORY INFORMATION

15.1 FEDERAL / NATIONAL	n/a
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15.2 STATE / LOCAL	n/a
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SECTION 16 – OTHER INFORMATION

The information presented here is current as of the date of this Material Safety Data Sheet and is believed to be accurate but is not warranted to be, whether originating with the company or not. Since use of this information and the product are not under the control of Martin/F. Weber Company, it is the user's obligation to determine conditions of safe use, in advance of use, and to carefully read the product label and follow all instructions for safe use of the product.

SECTION I - GENERAL INFORMATION

CHEMICAL NAME & SYNONYMS N/A	TRADE NAME & SYNONYMS CHECK-MARK BODY FLUID KIT
CHEMICAL FAMILY POWDERED ABSORBENT	FORMULA X<--MIXTURE
MANUFACTURERS NAME: CERTIFIED LABS, DIV. OF NCH CORP.	
ADDRESS (NUMBER, STREET, CITY, STATE & ZIP CODE) BOX 152170 IRVING, TEXAS 75015	
PREPARED BY: K RAHN/CHEMIST	PRODUCT CODE NUMBER 4115
EMERGENCY TELEPHONE NUMBER 214-438-1381	

SECTION II- HAZARDOUS INGREDIENTS

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS.

CHEMICAL NAME (INGREDIENTS) :		
AMORPHOUS SILICA	HAZARD-->NUIS.DUST	TLV-->10MG/M3 1
STEL(TWA)= ->NOT EST	CAS#-->7631-86-9	PEL-->80MG/M3 2

SECTION III - PHYSICAL DATA

BOILING PT. (FAHRENHEIT)	N/A	SPEC GRAVITY (H2O=1)	>1
VAPOR PRESSURE (MM HG)	N/A	COLOR	WHITE

CHECK-MARK BODY FLUID KIT

(CONTINUED)

SECTION III - PHYSICAL DATA

PAGE : 02

VAPOR DENSITY (AIR=1)	N/A	ODOR	MINT
PH @ 100%	N/A	CLARITY	OPAQUE
PERCENT VOLATILE BY VOLUME (%)	2	EVAPORATION RATE (BU AC = 1)	<0.001
SOLUBILITY IN WATER	HYGROSCOPIC		
VISCOSITY	FLOWABLE POWDER		

SECTION IV - FIRE AND EXPLOSION HAZARD

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	LEL	UEL
NON-FLAMM/A	N/A	N/A	N/A
EXTINGUISHING MEDIA	*ALCOHOL	DRY	WATER
X<--FOAM	X<--FOAM	X<--CHEMICAL	X<--SPRAY
	X<--CO2		<--OTHER

SPECIAL FIRE FIGHTING PROCEDURES
 WEAR NIOSH/MSHA APPROVED RESPIRATOR WHEN FIGHTING FIRES IN CONFINED AREAS
 TO PROTECT FROM EXPOSURE TO ACRID SMOKE AND HAZARDOUS DECOMPOSITION PRODUCTS.

UNUSUAL FIRE & EXPLOSION HAZARDS
 NONE KNOWN

NFPA HAZARD RATING (0=INSIGNIFICANT; 1=SLIGHT; 2=MODERATE; 3=HIGH; 4=EXTREME):
 1 <--HEALTH 0 <--FLAMMABILITY 0 <--REACTIVITY <--SPECIAL

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE :

NOT ESTABLISHED FOR MIXTURE. SEE SECTION II.

EFFECTS OF OVEREXPOSURE

- ACUTE - (SHORT TERM EXPOSURE)
 EXCESSIVE CONCENTRATIONS OF AIRBORNE DUST MAY IRRITATE THE EYES OF SENSITIVE INDIVIDUALS. SIMILARLY EXCESSIVE CONCENTRATIONS OF THE AIRBORNE DUST MAY IRRITATE THE NOSE, MUCOUS MEMBRANES, AND UPPER RESPIRATORY TRACT. NO EFFECTS FROM OVEREXPOSURE ARE EXPECTED FROM CONTACT WITH THE SKIN. THIS PRODUCT IS NOT TOXIC ORALLY.
 - CHRONIC - (LONG TERM EXPOSURE)
 NONE OTHER THAN THOSE NOTED FROM ACUTE EXPOSURE.

PRIMARY ROUTE OF ENTRY: X<-- INHALATION <-- INGESTION <-- ABSORPTION

EMERGENCY & FIRST AID PROCEDURES

INHALATION :
NOT GENERALLY REGUARDED AS A HAZARD. REMOVE PERSON FROM AREAS OF EXCESSIVE DUSTING AND TREAT SYMPTOMATICALLY.EYE CONTACT:
IF EYE IRRITATION OCCURS, FLUSH THOROUGHLY WITH WATER HOLDING EYELIDS APART. THE MILD TRANSIENT IRRITATION WHICH MAY OCCUR SHOULD BE BROUGHT TO THE ATTENTION OF A PHYSICIAN SHOULD IRRITATION PERSIST.SKIN CONTACT:
NOT TYPICALLY A HAZARD. SENSITIVE INDIVIDUALS SHOULD WASH WITH SOAP AND WATER.INGESTION :
FLUSH THE MOUTH WITH WATER TO REMOVE DUST, AND DRINK SEVERAL GLASSES OF FLUID (WATER, MILK, FRUIT JUICES). SEE A PHYSICIAN SHOULD DISCOMFORT BECOME SEVERE AND/OR PERSIST.

NOTES TO PHYSICIAN :

N/A

SECTION VI - TOXICITY INFORMATION

PRODUCT CONTAINS CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN BY:

IARC <--YES NTP <--YES OSHA <--YES ACGIH <--YES OTHER <--YES
X<--NO X<--NO X<--NO X<--NO X<--NOAMORPHOUS SILICA
OEL-RAT LD50: 3160MG/KG 3.
IPR-GPG LDLO: 120MG/KG 3.

SECTION VII - REACTIVITY DATA

STABILITY X<--STABLE <--UNSTABLE CONDITIONS TO AVOID
N/AINCOMPATIBILITY (MATERIALS TO AVOID)
AVOID CONTACT WITH STRONG OXIDIZERS SUCH AS NITRIC ACID, LIQUID OXYGEN, LIQUID CHLORINE, AND SODIUM OR CALCIUM HYPOCHLORITES.HAZARDOUS DECOMPOSITION PRODUCTS
OXIDES OF CARBON AND ACRID SMOKE

CHECK-MARK BODY FLUID KIT

(CONTINUED)

SECTION VII - REACTIVITY DATA

PAGE : 04

HAZARDOUS X WILL NOT MAY CONDITIONS TO AVOID
X <--OCCUR <--OCCUR
POLYMERIZATION N/A

SECTION VIII - SPILL OR LEAK PROCEDURES

STEPS TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
SMALL SPILLS: CONTAIN MATERIAL AND SCOOP UP FOR REUSE IF POSSIBLE.
FLUSH AREA WITH SOAP AND WATER AND FLUSH TO THE SANITARY SEWER.
LARGE SPILL: CONTAIN MATERIAL AND SCOOP UP FOR REUSE IF POSSIBLE.
FLUSH AREA WITH SOAP AND WATER AND FLUSH TO THE SANITARY SEWER.WASTE DISPOSAL METHOD
DISPOSE OF AS WITH OTHER SOLID WASTES. CONTAINERIZE, LABEL AND LANDFILL IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS. NORMALLY THIS PRODUCT AND ABSORBED WASTES CAN BE FLUSHED TO THE SANITARY SEWER.NEUTRALIZING AGENT
N/A

SECTION IX - SPECIAL PROTECTION INFORMATION

REQUIRED VENTILATION
GENERAL EXHAUST IS NORMALLY ADEQUATE.RESPIRATORY PROTECTION
FOR SEVERE DUSTING, WEAR NIOSH/MSHA APPROVED MASK FOR DUSTS.PROTECTIVE GLOVES
IMPERVIOUS GLOVES FOR SENSITIVE INDIVIDUALS.
SKIN PROTECTION IS NOT GENERALLY REQUIRED.EYE PROTECTION
SAFETY GLASSES OR FACE SHIELD FOR SEVERE DUSTING.
PROTECTION IS NOT GENERALLY REQUIRED.OTHER PROTECTION
N/A

SECTION X - STORAGE AND HANDLING INFORMATION

(CONTINUED)

STORAGE TEMPERATURE
120 F <--MAX 32 F <--MIN X
INDOOR HEATED REFRIGERATED OUTDOOR

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING
MATERIAL IS HYGROSCOPIC (ABSORBS MOISTURE) STORE
IN SEALED CONTAINERS IN A DRY COOL ENVIRONMENT.

OTHER PRECAUTIONS
KEEP OUT OF REACH OF CHILDREN.
READ ENTIRE LABEL BEFORE USING PRODUCT.

SECTION XI - REGULATORY INFORMATION

CHEMICAL NAME C.A.S. NUMBER UPPER % LIMIT

N/A

THOSE INGREDIENTS LISTED ABOVE ARE SUBJECT TO THE REPORTING REQUIREMENTS OF
313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF
1986 AND 40 CFR PART 372.

IF UE (USE EXEMPTION) APPEARS UNDER UPPER % LIMIT, END USERS ARE EXEMPT
FROM NOTIFICATION BECAUSE THE PRODUCT IS USED AND LABELED FOR ROUTINE
JANITORIAL WORK, OR THE PRODUCT IS USED AND LABELED FOR FACILITY GROUNDS
MAINTENANCE (SUCH AS FERTILIZERS AND HERBICIDES), OR THE PRODUCT IS USED AND
LABELED FOR MAINTAINING MOTOR VEHICLES.

CALIFORNIA PROPOSITION 65
WARNING: THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) KNOWN TO THE STATE OF
CALIFORNIA TO CAUSE (1) CANCER OR (2) BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM:
NONE

SECTION XII - TRANSPORTATION * (FOR FUTURE USE)

APPLICABLE REGULATIONS
<--49 CFR <--IMCO <--TARIFF 6 D <--IATA <--MILITARY AIR (AFR 71-4)

SHIPPING NAME

HAZARD CLASS ID NUMBER REPORT QTY

LABELS LIMITED QTY

UNIT CONTAINER

DOT SPS CONTAINER NET EXPLOSIVE WT.

CHECK-MARK BODY FLUID KIT

(CONTINUED)

SECTION XII - TRANSPORTATION * (FOR FUTURE USE)

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AEROSOL PROPELLANT(S)

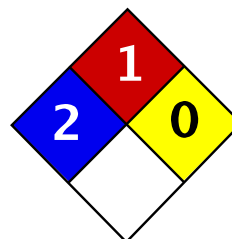
SECTION XIII - REFERENCES

1. THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS AND
BIOLOGICAL EXPOSURE INDICES, ACGIH., 1990-1991
2. OSHA PEL
3. DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, 7TH EDITION,
N. IRVING SAX AND RICHARD J. LEWIS, SR.

*SHORT TERM EXPOSURE LIMIT (TWA) LISTED AS FINAL RULE LIMITS PUBLISHED IN THE
FEDERAL REGISTER/VOL. 54 NO. 12, 1-19-89

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED
ACCURATE IN LIGHT OF CURRENT FORMULATION. HOWEVER, NO WARRANTY
IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA
OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

CERTIFIED LABS, DIV. OF NCH CORP. ASSUMES NO RESPONSIBILITY
FOR PERSONAL INJURY OR PROPERTY DAMAGE CAUSED BY THE USE, STORAGE
OR DISPOSAL OF THE PRODUCT IN A MANNER NOT RECOMMENDED ON THE
PRODUCT LABEL. USERS ASSUME ALL RISKS ASSOCIATED WITH SUCH
UNRECOMMENDED USE, STORAGE, OR DISPOSAL OF THE PRODUCT.



Health	2
Fire	1
Reactivity	0
Personal Protection	E

Material Safety Data Sheet

Boiling chips MSDS

Section 1: Chemical Product and Company Identification

Product Name: Boiling chips

Catalog Codes: SLB3724

CAS#: 409-21-2

RTECS: VW0450000

TSCA: TSCA 8(b) inventory: Boiling chips

CI#: Not available.

Synonym: Crystolon Black Silicon Carbide; Boiling Chips

Chemical Name: Silicon Carbide

Chemical Formula: SiC

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Boiling chips	409-21-2	100

Toxicological Data on Ingredients: Boiling chips LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Some metallic oxides.

Fire Hazards in Presence of Various Substances:

Slightly flammable to flammable in presence of heat.

Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Submicron materials can ignite

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage**Precautions:**

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 24°C (75.2°F).

Section 8: Exposure Controls/Personal Protection**Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 10 (mg/m³) from ACGIH (TLV) [United States] Inhalation Total.

TWA: 10 (mg/m³) from NIOSH [United States] Inhalation Total.

TWA: 5 (mg/m³) from NIOSH [United States] Inhalation Respirable.

TWA: 15 (mg/m³) from OSHA (PEL) [United States] Inhalation Total.

TWA: 5 (mg/m³) from OSHA (PEL) [United States] Inhalation Respirable.

TWA: 10 (mg/m³) [United Kingdom (UK)] Inhalation Total.

TWA: 4 (mg/m³) [United Kingdom (UK)] Inhalation Respirable.³

Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Crystalline solid.)

Odor: Odorless.

Taste: Not available.

Molecular Weight: 40.1 g/mole

Color: Bluish-black

pH (1% soln/water): Not applicable.

Boiling Point: 3350°C (6062°F)

Melting Point: Sublimation temperature: 2700°C (4892°F)

Critical Temperature: Not available.

Specific Gravity: 3.2 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Insoluble in cold water, hot water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat

Incompatibility with various substances: Not available.

Corrosivity: Not considered to be corrosive for metals and glass.

Special Remarks on Reactivity: Inert

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals:

LD50: Not available.

LC50: Not available.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.

Other Toxic Effects on Humans:

Hazardous in case of ingestion.

Slightly hazardous in case of skin contact (irritant), of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

Nuisance dust.

Acute Potential Health Effects:

Skin: May cause irritation by mechanical action (abrasive).
Eyes: Dust may irritate eyes
Inhalation: May cause respiratory tract irritation with coughing, and shortness of breath. May cause pulmonary fibrosis, pulmonary edema, interstitial pneumonia, collapsed bronchioles, alveolar atelectasis, nodular opacities, pneumonconiosis. May alter the course of inhalation tuberculosis, leading to extensive fibrosis and progressive disease.
Ingestion: No known adverse affects, but ingestion is not recommended.
Chronic Potential Health Effects:
Inhalation: May affect breathing capacity.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:

Illinois toxic substances disclosure to employee act: Boiling chips
Rhode Island RTK hazardous substances: Boiling chips
Pennsylvania RTK: Boiling chips
Minnesota: Boiling chips
Massachusetts RTK: Boiling chips
New Jersey: Boiling chips
TSCA 8(b) inventory: Boiling chips

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

R36/38- Irritating to eyes and skin.

S2- Keep out of the reach of children.
S46- If swallowed, seek medical advice
immediately and show this container or label.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves.

Lab coat.

Dust respirator. Be sure to use an
approved/certified respirator or
equivalent.

Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/09/2005 04:24 PM

Last Updated: 10/09/2005 04:24 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.



Material Safety Data Sheet

Date of Preparation: May 25, 2006

Section 1 - Product Information

Product Name: All Purpose Fiberglass Resin

Product Code: 20122, 20124

Emergency Phone: Chemtrec 800-424-9300

Company: Bondo Corporation
3700 Atlanta Industrial Parkway NW
Atlanta, GA 30331

Revision Number: 1

Intended Use: Fiberglass Repair Resin

This product is packaged with MEKP Liquid Hardener (see the MSDS for MEKP Liquid Hardener, Stock Number: 912).

Emergency Overview

Signs of Overexposure: Intestinal upset (nausea, vomiting, diarrhea), Irritation of nose, throat, and airways, central nervous system effects (dizziness, drowsiness, weakness, fatigue, headache, unconsciousness), Loss of coordination, Mental confusion, liver damage,

Emergency First Aid: Flush eyes for 20 minutes. Get immediate medical attention. Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with head down. Contact physician for advise about whether to induce vomiting. Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. Get medical attention immediately. Wash with soap and water. If symptoms persist, get medical attention.

Handling: Avoid contacting and avoid breathing the material. Use only in a well ventilated area.

Material Physical Appearance: White to off-white Paste

Fire Fighting: Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water may be ineffective but water spray can be used to extinguish a fire if swept across the base of the flames. Water can absorb heat and keep exposed material from being damaged by fire.

Your local fire department may require that you display the NFPA 704 diamond symbol on the front and/or rear entrance to your building.

NFPA 704: Health: 2, Fire: 3, Reactivity: 0

HMIS: Health: 2, Fire: 3, Reactivity: 0

Bondo Corporation has no oversight with respect to the guidance practices or policies or manufacturing processes of other companies handling or using this material. The information given in this MSDS is only related to the product as shipped in its original condition. The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks as required by regulations.

Section 2 - Hazardous Ingredients

Chemical Name	%	CAS#	OSHA Exposure Limits
Proprietary Resin	60.0 - 70.0	Proprietary	Not established
Styrene	30.0 - 40.0	100-42-5	100 ppm TWA; C 200 ppm

Section 3 – Hazards Identification

Routes of Entry: Eye contact, Skin contact, Inhalation, Ingestion,

Target Organs Potentially Affected by Exposure: Skin, Liver, Eyes, Respiratory Tract, Nervous System,

Chemical Interactions That Change Toxicity: None Known,

Medical Conditions Aggravated by Exposure: Skin disease including eczema and sensitization, Liver disease, Eye disease, Respiratory disease including asthma and bronchitis,

Immediate (Acute) Health Effects by Route of Exposure

Inhalation Irritation: Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.

Inhalation Toxicity: Vapor harmful. May affect the brain or nervous system causing dizziness, headache or nausea. Causes nose and throat irritation. Non-Toxic. Not known to cause systemic damage.

Skin Contact: Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Skin Absorption: No absorption hazard in normal industrial use. Component(s) may be absorbed through intact skin, but it is unlikely that harmful effects will occur unless contact is prolonged, repeated, and extensive.

Eye contact: Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.

Ingestion Irritation: Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Small amounts (a tablespoonful) swallowed during normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

Ingestion Toxicity: slightly toxic

Long-Term (Chronic) Health Effects

Carcinogenicity: Contains a substance that is a possible cancer hazard based on high dose animal studies and/or a human study.

Reproductive and Developmental Toxicity: Contains a substance(s) that is a possible reproductive system hazard based on high dose tests with laboratory animals.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.

Inhalation: Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.

Skin Contact: Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Skin Absorption: Upon prolonged or repeated exposure, no hazard in normal industrial use.

Ingestion: slightly toxic

Section 4 – First Aid Measures

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately.

Eyes: Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention. In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention immediately; for skin, wash thoroughly with soap and water.

Skin Contact: Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

Ingestion: Do not induce vomiting and seek medical attention immediately. Provide medical care provider with this MSDS. If swallowed, do not induce vomiting. Get medical attention immediately.

Notes to Doctor: No additional first aid information available

Section 5 – Fire Fighting Measures

Flammability Summary: Flammable

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water may be ineffective but water spray can be used to extinguish a fire if swept across the base of the flames. Water can absorb heat and keep exposed material from being damaged by fire.

Fire and/or Explosion Hazards: Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a fire (Class B). Vapors are heavier than air and may travel to a source of ignition and flash back.

Fire Fighting Methods and Protection: Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Flammable component(s) of this material may be lighter than water and burn while floating on the surface. Use water spray/fog for cooling. Flammable component(s) of this material may be lighter than water and burn while floating on the surface.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide, Hydrocarbons,

Flash Point (SFCC): 27 deg. C 80 deg. F

Lower Flammable/Explosive Limit: Not determined

Section 6 - Accidental Release

Personal Precautions and Equipment: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this MSDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Evaporation of volatile substances can lead to the displacement of air creating an environment that can cause asphyxiation.

Methods for Clean-up: Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Shut off ignition sources; including electrical equipment and flames. Do not allow smoking in the area.

Section 7 – Handling and Storage

Handling Technical Measures and Precautions: Harmful or irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. Use spark-proof tools and explosion-proof equipment.

Storage Technical Measures and Conditions: Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed. Keep away from sources of ignition.

Section 8 – Exposure Controls/Personal Protection

Engineering Measures: No exposure limits exist for the constituents of this product. Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort.

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. Wear a NIOSH approved respirator if levels above the exposure limits are possible.

Eye Protection: Wear chemically resistant safety glasses with side shields when handling this product.

Skin Protection: Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work

Gloves: Required for prolonged or repeated contact. Use solvent resistant gloves. Barrier creams are not substitutes for full physical protection. Refer to safety equipment supplier for effective glove recommendations.

Control Parameters:

Chemical Name	ACGIH TLV-TWA	ACGIH STEL	IDLH
Proprietary Resin	Not established	Not established	Not determined
Styrene	20 ppm TWA; 85 mg/m ³ TWA	40 ppm STEL; 170 mg/m ³ STEL	Not determined

Section 9 – Physical and Chemical Properties

Physical State: Paste

Color: White to off-white

Odor: Strong Solvent

pH: Not determined

Solubility in Water: Not determined

Volatiles, % by weight: 33.8

Volatiles, % by volume: 42.61

Volatile Organic Compounds excluding exempt solvents and water:

3.21 Lb/gallon 385.03 g/l

Volatile Organic Compounds including exempt solvents and water:

3.21 LB/gallon 385.03 g/l

Vapor Density: 3.6000000

Vapor Pressure: Not determined

Boiling Point: 145.0000000 deg. C; 293 deg. F

Specific Gravity: 0.905

Weight per Gallon: 9.5144

Section 10 – Stability and Reactivity

Stability: Stable under normal conditions. May become unstable at elevated temperatures and/or pressure.

Conditions to Avoid: Sparks, open flame, other ignition sources, and elevated temperatures.

Materials to Avoid/Chemical Incompatibility: Strong oxidizing agents, Peroxides, Strong acids,

Hazardous Decomposition Products: Hydrocarbons, Carbon monoxide, Carbon dioxide,

Section 11 - Toxicological Information

Sensitization (effects of repeated exposure): No data

Component Toxicology Data (NIOSH)

Chemical Name	CAS Number	LD50/LC50
Proprietary Resin	Proprietary	No Data Available
Styrene	100-42-5	Inhalation LC50 Rat: 12 gm/m ³ /4H; Inhalation LC50 Mouse: 9500 mg/m ³ /4H; Oral LD50 Rat: 2,650 mg/kg

Section 12 - Ecological Information

Overview:

Avoid runoff into ground, storm drains or sewers that lead into waterways. Water runoff may cause environmental damage. There are extensive ecological data available on the various components of these products. An adequate representation of all these data is beyond the scope of this document. Please contact the information phone number found in Section 16.

Section 13 – Disposal Information

Waste Description for Spent Product: Spent or discarded material is a hazardous waste.

Disposal Methods: Dispose of in accordance with federal, state or provincial and local pollution requirements. Clean preferably with a detergent, avoid the use of solvents. This information applies only to the material as manufactured; processing, use or contamination may make this information inappropriate, inaccurate or incomplete. The generator of the waste has the responsibility for proper waste classification, transportation and disposal.

Waste Disposal Codes: D001

Section 14 – Transportation Information

DOT Shipping Information: DOT: Consumer Commodity, ORM-D
IMDG: UN 3269, Polyester Resin Kit, 3, III, LTD QTY, Flash Point 27C, EmS F-E, S-D

Section 15 - Regulatory Information

Note: Materials listed in this section may be present as trace level contaminants to raw materials. Check Section 2 - Hazardous Ingredients to determine if a significant amount is present

OSHA: This product is considered hazardous under the Federal OSHA Hazard Communication Standard.

WHMIS: B2, D2A, D2B,

SARA Title III:

Section 302 Extremely Hazardous Substances: None

Section 311 / 312 Hazard Categories: Immediate health, delayed health, fire hazard.

Section 313 Toxic Chemicals: Styrene,

You may be required to submit this MSDS to state and local emergency response agencies (SERC & LEPC) and to your local fire department. Also, you may be affected by other sections of this law, depending on the chemicals and amounts that you inventory at your location. To learn more about your responsibilities, call the EPA Hotline (800) 535-0202

TSCA status: All components in this product are on the TSCA Inventory.

Canadian Domestic Substances List: The components of this product ARE listed on the Canadian Domestic Substances List.

Proposition 65: WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm.

Section 16 - Preparation Information

Prepared by Bondo Corporation

Information phone number: (404) 696-2730

Do not handle until the manufacturer's safety precautions have been read and understood. Regulations require that all employees be trained on Material Safety Data Sheets for all products with which they come in contact.

While Bondo Corporation believes that the data contained herein are accurate and derived from qualified sources, the data are not to be taken as a warranty or representation for which Bondo Corporation assumes legal responsibility. They are offered solely for your consideration, investigation and verification.

Any use of these data and information must be determined by the user to be in accordance with applicable federal, state or provincial and local laws and regulations.



Material Safety Data Sheet

Section 1: Product & Company Identification

Product Name: Brakleen® Brake Parts Cleaner – Non-chlorinated (aerosol)

Product Number (s): 05084, 05084-6

Manufactured By:

CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com

General Information	(215) 674-4300
Technical Assistance	(800) 521-3168
Customer Service	(800) 272-4620
24-Hr Emergency (CHEMTREC)	(800) 424-9300

Section 2: Hazards Identification

Emergency Overview

Appearance & Odor: Clear liquid; solvent odor

DANGER

Extremely Flammable. Harmful or Fatal if Swallowed. May Cause Blindness if Swallowed. Vapor Harmful. Eye and Skin Irritant. Contents Under Pressure.

As defined by OSHA's Hazard Communication Standard, this product is hazardous.

Potential Health Effects:

EYE: Moderate eye irritant. Exposure can cause irritation including stinging, tearing, redness, blurred vision, and swelling of the eyes.

SKIN: Moderate skin irritant. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of the skin, and skin burns. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

INHALATION: Breathing large amounts of this material may be harmful. Symptoms include irritation of the nose and throat and central nervous system excitation (giddiness), followed by CNS depression (dizziness, drowsiness, weakness, headache, nausea, unconsciousness).

INGESTION: Swallowing small amounts is not likely to cause harmful effects. May cause stomach or intestinal upset. Swallowing larger amounts may be harmful as this material may be aspirated into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

CHRONIC EFFECTS: Overexposure to methanol may lead to visual impairment.

TARGET ORGANS: liver, kidneys, blood, central nervous system, eyes

Medical Conditions Aggravated by Exposure: skin sensitivities, lung conditions, central nervous system conditions

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Product Name: Brakleen® Brake Parts Cleaner – Non-chlorinated (Aerosol)

Product Number (s): 05084, 05084-6

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Acetone	67-64-1	45 - 55
Toluene	108-88-3	25 - 35
Methanol	67-56-1	10 - 20
Carbon dioxide	124-38-9	5 – 10

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Seek medical attention. Do not induce vomiting unless instructed by medical personnel. Have victim drink a glass of water if conscious.

Note to Physicians: This material is an aspiration hazard. This material (or a component) has produced hyperglycemia and ketosis following substantial ingestion. Inhalation of high concentrations of this material may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This product contains methanol. The metabolites of methanol can cause metabolic acidosis, visual disturbances and blindness.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is extremely flammable in accordance with aerosol flammability definitions (16 CFR 1500.3(c)(6)).

Flash Point:	< 0 F (TCC)	Upper Explosive Limit:	12.8
Autoignition Temperature:	725 F	Lower Explosive Limit:	2.6

Suitable Extinguishing Media: dry chemical, carbon dioxide, alcohol-resistant foam, class B extinguishers

Products of Combustion: oxides of carbon

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Vapors are heavier than air and will accumulate near the ground. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Product Name: Brakleen® Brake Parts Cleaner – Non-chlorinated (Aerosol)

Product Number (s): 05084, 05084-6

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.

Methods for Containment & Clean-up: Eliminate sources of ignition. Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Do not use near potential sources of ignition. Do not use on energized equipment. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid inhaling vapors.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120 F to prevent cans from rupturing.

Aerosol Storage Level: III

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
Acetone	1000	NE	500	750	NE		ppm
Toluene	200	300 (c)	20	NE	NE		ppm
Methanol	200	NE	200	250 (s)	NE		ppm
Carbon dioxide	5000	30000(v)	5000	30000	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as nitrile, PVA, or neoprene. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Product Name: Brakleen® Brake Parts Cleaner – Non-chlorinated (Aerosol)

Product Number (s): 05084, 05084-6

Section 9: Physical and Chemical Properties

Physical State: liquid

Color: clear

Odor: solvent

Specific Gravity: 0.814

Initial Boiling Point: 132 F

Freezing Point: ND

Vapor Pressure: ND

Vapor Density: > 1 (air = 1)

Evaporation Rate: > 1 (butyl acetate = 1)

Solubility: slightly soluble in water

pH: NA

Volatile Organic Compounds: wt %: 43.8 g/L: 356.5 lbs./gal: 2.97

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition; temperature extremes

Incompatible Materials: Acids, alkalis, reducing agents, strong oxidizing agents, hypochlorites, peroxides, reactive metals such as aluminum and magnesium, sodium, zinc

Hazardous Decomposition Products: Oxides of carbon, various hydrocarbons

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

ACUTE EFFECTS

<u>Component</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Acetone	LD50	5800 mg/kg	Oral	Rat
Acetone	LC50	16,000 ppm/4H	Inhalation	Rat
Acetone	LD50	20,000 mg/kg	Dermal	Rabbit
Methanol	LD50	5045 mg/kg	Oral	Rat
Methanol	LD50	12,800 mg/kg	Dermal	Rabbit

CHRONIC EFFECTS

Carcinogenicity:

	<u>Component</u>	<u>Result</u>
OSHA:	None listed	
IARC:	None listed	
NTP:	None listed	

Mutagenicity: No information available

Product Name: Brakleen® Brake Parts Cleaner – Non-chlorinated (Aerosol)

Product Number (s): 05084, 05084-6

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity:	Acetone – 48H LC50 Daphnia: 10 mg/l
Persistence / Degradability:	No information available
Bioaccumulation / Accumulation:	No information available
Mobility in Environment:	No information available

Section 13: Disposal Considerations

Disposal: The dispensed liquid product is a RCRA hazardous waste for the characteristic of ignitability with the following potential waste code(s): D001, F003, F005 (See 40 CFR Part 261.20 – 261.33).
Aerosol containers should be fully emptied and depressurized before disposal.

All disposal activities must comply with federal, state and local regulations. Local regulations may be more stringent than state or national requirements.

Section 14: Transport Information

Proper shipping description:

US DOT (ground): Consumer Commodity, ORM-D

Special Provisions: None

Section 15: Regulatory Information

U.S. Federal

Toxic Substances Control Act (TSCA):

All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Reportable Quantities (RQ's) exist for the following ingredients: Acetone (5000 lbs), Toluene (1000 lbs), Methanol (5000 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:

Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:	Fire Hazard	Yes
	Reactive Hazard	No
	Release of Pressure	Yes
	Acute Health Hazard	Yes
	Chronic Health Hazard	No

Product Name: Brakleen® Brake Parts Cleaner – Non-chlorinated (Aerosol)

Product Number (s): 05084, 05084-6

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Toluene (< 30%), Methanol (< 20%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): Toluene, Methanol

Consumer Product Safety Act General Conformity Certification: This product was evaluated by CRC Industries, Inc., and is certified to be in compliance with the provisions of the Consumer Product Safety Act, the Federal Hazardous Substances Act and the Poison Prevention Packaging Act, as applicable. This product was manufactured at the location listed in Section 1 of this MSDS. The date of manufacture is stamped on the product container. No testing is required to certify compliance with the above

State Regulations

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):

This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: Toluene

State Right to Know:

New Jersey: 67-64-1, 108-88-3, 67-56-1, 124-3
Pennsylvania: 67-64-1, 108-88-3, 67-56-1, 124-3
Massachusetts: 67-64-1, 108-88-3, 67-56-1, 124-3
Rhode Island : 67-64-1, 108-88-3, 67-56-1, 124-3

Additional Regulatory Information: In states with consumer products VOC regulations, this product is compliant as a 'Brake Cleaner'.

Section 16: Other Information

NFPA:	Health: 2	Flammability: 3	Reactivity: 0	
HMIS:	Health: 2	Flammability: 3	Reactivity: 0	PPE: B

Prepared By: Michelle Rudnick
CRC #: 594M/Q
Revision Date: 11/07/2008

Changes since last revision: Section 15: CPSA Certification added

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label.

CAS:	Chemical Abstract Service	NA:	Not Applicable
ppm:	Parts per Million	ND:	Not Determined
TCC:	Tag Closed Cup	NE:	Not Established
PMCC:	Pensky-Martens Closed Cup	g/L:	grams per Liter
PPE:	Personal Protection Equipment	lbs./gal:	pounds per gallon
TWA:	Time Weighted Average	STEL:	Short Term Exposure Limit
OSHA:	Occupational Safety and Health Administration		
ACGIH	American Conference of Governmental Industrial Hygienists		
NIOSH	National Institute of Occupational Safety & Health		

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 134.00

Revision Date: December 16, 2013

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Bromcresol Green

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Bromcresol green, sodium salt	62625-32-5	$C_{21}H_{13}Br_4O_3SNa$	720.05	
Synonyms: 3',3'',5',5''-Tetrabromo-m-cresolsulfonphthalein sodium salt; Bromocresol green				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators, and stains.
Keep container tightly closed. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash thoroughly after handling. Will stain skin, clothing, and surfaces.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Tan-colored powder. Odorless.

Soluble: Water

Absorbance maximum: 616 nm

Biological stain.

pH indicator: 3.8 yellow to 5.4 blue.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: N.A.

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-972-8).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

MSDS #: 137.00

Revision Date: November 25, 2002

Section 1 — Chemical Product and Company Identification

Bromocresol Purple Indicator Solution

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Bromocresol Purple (62625-30-3) 0.04%, Water (7732-18-5) >99%

Synonym: Bromocresol Purple Indicator Solution

CAS#: None Established

Section 3 — Hazards Identification

An orange/red solution. Odorless.

Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-0

Exposure-0

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable, non combustible solution.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area and ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators, and stains.

Section 8 — Exposure Controls , Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

An orange/red solution. Odorless.

Acid/Base indicator: pH 5.2 yellow to 6.8 purple.

Section 10 — Stability and Reactivity

Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: N.A.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD50: N.A.

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #26b is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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"Your Safer Source for Science Supplies"

Flinn--"Your Safer Source for Chemicals"

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 136.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Bromcresol Purple

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Hazard class: Specific target organ toxicity, single exposure; Respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Bromcresol purple, sodium salt	62625-30-3	C ₂₁ H ₁₅ Br ₂ O ₅ SNa	562.22	
Synonyms: Bromocresol purple, sodium salt; 5,5'-Dibromo-o-cresolsulfonphthalein				

SECTION 4 — FIRST AID MEASURES

If exposed or concerned: Get medical advice or attention (P308+P313).

If inhaled: Remove victim to fresh air in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Rinse cautiously with water for several minutes (P351).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators and stains.
Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271). Will stain skin, clothing, and surfaces.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Black powder. Odorless.

Soluble: Water

Absorbance maximum: 590 nm

Biological stain.

pH indicator: 5.2 yellow to 6.8 blue.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: N.A.

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (263-655-3).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

MSDS #: 139.00

Revision Date: November 25, 2002

Section 1 — Chemical Product and Company Identification

Bromphenol Blue Indicator Solution

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Bromphenol Blue (62625-28-9) 0.04% and Water (7732-18-5) >99%.

Synonym: Bromophenol Blue Indicator Solution

CAS#: None Established

Section 3 — Hazards Identification

A dark purple solution. Odorless.

Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-0

Exposure-0

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable, non combustible solution.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area and ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators, and stains.

Section 8 — Exposure Controls , Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Dark purple solution. Odorless.

Solubility: Water.

Acid/Base indicator: pH 3.0 yellow to 4.6 purple.

Section 10 — Stability and Reactivity

Shelf life: Indefinite

Section 11 — Toxicological Information

Acute effects: N.A.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD50: N.A.

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #26b is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

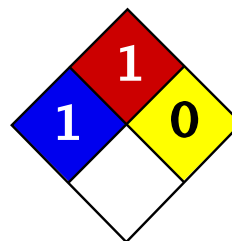
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flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436



Health	1
Fire	1
Reactivity	0
Personal Protection	E

Material Safety Data Sheet

Bromophenol blue MSDS

Section 1: Chemical Product and Company Identification

Product Name: Bromophenol blue

Catalog Codes: SLB2791

CAS#: 115-39-9

RTECS: SJ7453000

TSCA: TSCA 8(b) inventory: Bromophenol blue

CI#: Not available.

Synonym:

4,4'-(3H-2,1-Benzoxathiol-3-ylidene)bis(2,6-dibromo)phenol-S,S-dioxide;
Phenol, 4,4'-(3H-2,1benzoxathiol-3-ylidene)bis(2,6-dibromo-,
S,S-dioxide; 3',3'',5',5''-Tetrabromophenolsulfophthalein;
Albutest; Bromphenol Blue; Tetrabromophenolsulfophthalein

Chemical Name: Bromophenol Blue

Chemical Formula: C₁₉H₁₀Br₄O₅S

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Bromophenol blue	115-39-9	100

Toxicological Data on Ingredients: Not applicable.

Section 3: Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO₂), halogenated compounds.

Fire Hazards in Presence of Various Substances:

Slightly flammable to flammable in presence of heat.

Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

Slightly explosive in presence of open flames and sparks.

Non-explosive in presence of shocks.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: As with most organic solids, fire is possible at elevated temperatures

Special Remarks on Explosion Hazards:

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Section 6: Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage**Precautions:**

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Keep away from incompatibles such as oxidizing agents.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection**Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Powdered solid.)

Odor: Amine like. Odorless. (Slight.)

Taste: Not available.

Molecular Weight: 669.97 g/mole

Color: Purple, Red , reddish brown, Orange or Yellow.

pH (1% soln/water): Not available.

Boiling Point: 279°C (534.2°F)

Melting Point: 273°C (523.4°F)

Critical Temperature: Not available.

Specific Gravity: Not available.

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Very slightly soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, excess heat

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Incompatible with strong oxiders.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals:

LD50: Not available.

LC50: Not available.

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects:

Skin: May cause skin irritation with redness and pain.

Eyes: May cause eye irritation with redness and pain.

Inhalation: May cause respiratory tract irritation. Symptoms may include coughing and shortness of breath.

Ingestion: Effects not determined. Large oral doses may cause irritation of the gastrointestinal tract with nausea, vomiting, and diarrhea. Low hazard for usual industrial handling.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may

arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Bromophenol blue

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

This product is not classified according to the EU regulations.
Not applicable.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves.
Lab coat.
Dust respirator. Be sure to use an

approved/certified respirator or
equivalent.
Safety glasses.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/11/2005 11:28 AM

Last Updated: 10/11/2005 11:28 AM

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FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 141.00

Revision Date: February 6, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Bromthymol Blue Indicator Solution

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Bromthymol blue, sodium salt	34722-90-2	$C_{27}H_{27}Br_2O_5SNa$	646.38	0.04%
Water	7732-18-5	H_2O	18.00	>99%

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators and stains.
Keep container tightly closed. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling. Will stain skin, clothing, and surfaces.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Deep blue liquid. Odorless.

Absorbance maximum: 392nm and 615nm

Biological stain.

pH indicator: 6.0 yellow to 7.6 blue.

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

ORL-RAT LD₅₀: N.A.

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: February 6, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 140.00

Revision Date: February 6, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Bromthymol Blue

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Bromthymol blue, sodium salt	34722-90-2	$C_{27}H_{27}Br_2O_5SNa$	646.38	
Synonyms: Bromothymol blue; 3' 3''-dibromothymolsulfonephthalein				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Do not allow solid to become airborne. Ventilate area. Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators and stains.
Keep container tightly closed. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling. Will stain skin, clothing, and surfaces.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Green/brown powder. Odorless.

Soluble: Water

Absorbance maximum: 392nm and 615nm

Biological stain.

pH indicator: 6.0 yellow to 7.6 blue.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: N.A.

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (252-169-7).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: February 6, 2014

MATERIAL SAFETY DATA SHEET

Product: SAX Clays

Rcvd Jan 2002

Product Code: Clays

630-400/446432

Manufacturer's Name:

American Art Clay Co., Inc.
4717 West 16th Street
Indianapolis, IN 46222

Information Number: (800) 374-1600

Emergency Number: (800) 374-1600

Section I - Product Identification

Product Name: SAX Clays

Product Class: Clay

Product Size: 50 lbs.

SAX Cream White Earthenware, White Art, Buff Stoneware Speckled, Brown Stoneware, Indian Red & Speckled Indian Red Clay

Section II

- No reportable quantities of hazardous ingredients are present.

** No toxic chemical (s) subject to the reporting requirements of Sect 313 of Title III and of 40 CFR 372 are present***

This product carries the "AP" Seal. Labeling conforms to ASTM D4236. Contains crystalline silica. See Section VI.

Section III - Physical / Chemical Characteristics

Boiling Range: NA

Vapor Density: NA

Coating V.O.C.: NA

Appearance and Odor: 50 lbs. Moist (2 Blocks)

Specific Gravity (H2O=1) = Less than 2

Evaporation Rate: NA

Material V.O.C.: NA

Section IV - Fire and Explosion Hazard Data

Flash Point: NA

Flammable Limits In Air By Volume: NA - Lower

Extinguishing Media: NA

Special Firefighting Procedures: No fire hazard.

Unusual Fire and Explosion Hazards: No fire hazard

Method Used: NA

NA - Upper

Section V - Reactivity Data

Stability: Stable

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: Will not occur.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: None

Section VI - Health Hazards Data

Inhalation Health Risks and Symptoms of Exposure: May cause damage to the lungs by inhalation of dust or mist. Possible cancer agent by inhalation based on laboratory test. Contains crystalline silica.

Skin and Eye Contact Health Risks and Symptoms of Exposure: Eye – rinse eyes thoroughly with water for 15 minutes. Skin – wash hands with soap and water after use.

Skin Absorption Health Risks and Symptoms of Exposure: None. Wash hands with soap and water after use.

Ingestion Health Risks and Symptoms of Exposure: None. Carries the "AP" Seal.

Health Hazards (Acute / Chronic) : May cause damage to the lungs by inhalation of dust or mist. Cancer agent based on laboratory tests. In moist form non-hazardous. Warning: Detectable amounts of chemical(s) known to the State of California to cause cancer, birth defects, or other reproductive harm may be found in this product., (Prop. 65 California Health & Safety code section 25249.6 ET. SEQ. – Dry clays)

Carcinogenicity: Yes NTP Carcinogen Yes – IARC Monographs Yes – OSHA Regulated

Medical Conditions Generally Aggravated by Exposure: Unknown.

Emergency and First Aid Procedures: Contact your local poison control for further health information.

Section VII – Precautions For Safe Handling and Use.

Steps To Be Taken In Case Material is Released or Spilled.: Clean with paper towel and wet sponge.

Waste Disposal Method: Dispose of paper towel in trash and rinse sponge. In manufacturing, dispose of in accordance to Local, State or Federal regulations

Precautions To Be Taken In Handling and Storing: Keep bags or boxes of clay properly sealed. If left open clay will dry out.

Other Precautions: Do not create dust.

Section VIII – Control Measures

Respiratory Protection: Not needed in moist form.

Ventilation: Not needed.

Protective Glove: Not needed.

Eye Protection: Not needed.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Refer to AMACO Product Encyclopedia & Safety Manual. Manual available upon request.

IX – Disclaimer

Information presented here in has been compiled from sources considered to be dependable and is accurate to the best of our knowledge and belief but is not guaranteed to be so. Since conditions of use are beyond our control we make no warranties, expressed or implied, except those that may be contained in our written acknowledgement.

Prepared by: L. Jenkins
2002



SAFETY DATA SHEET

1. Identification

Product identifier	BRUTAB 6S		
Other means of identification			
Product number	161021		
Recommended use	Effervescent disinfectant tablets		
Recommended restrictions	None known.		
Manufacturer/Importer/Supplier/Distributor information			
Manufacturer			
Company name	Brulin & Company, Inc.		
Address	P.O. Box 270 Indianapolis, IN 46206 United States		
Telephone	Phone:	317-923-3211	
	Fax:	317-925-4596	
Website	www.Brulin.com		
Emergency phone number	CHEMTREC	1-800-424-9300	

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, dermal	Not classified
	Skin corrosion/irritation	Not classified
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
OSHA defined hazards	Not classified.	

Label elements



Signal word	Warning
Hazard statement	Harmful if swallowed. Causes serious eye irritation. May cause respiratory irritation.
Prevention	Avoid breathing dust. Do not eat, drink or smoke when using this product. Use only in well-ventilated areas. Wear safety glasses with side shields (or goggles). Wear protective gloves. Wash hands thoroughly after handling.
Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store away from incompatible materials. Keep out of the reach of children.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	Contact with acids liberates toxic gas.

BRUTAB 6S

Product number: 161021

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	% by weight
Dichloroisocyanuric acid, sodium salt	2893-78-9	45 - <50
Adipic acid	124-04-9	35 - <40
Sodium carbonate	497-19-8	10 - <15

4. First-aid measures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Notes to physician	Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
General information	In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Collect spillage. Sweep up or gather material and place in appropriate container for disposal. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling	Mix only with water. Do not mix with other chemicals. Minimize dust generation and accumulation. Do not breathe dust. Do not get this material in contact with eyes. Do not taste or swallow. Provide adequate ventilation. Contamination with moisture, dirt, organic matter or other chemicals or any other foreign matter may start a chemical reaction with generation of heat, liberation of hazardous gases and possible generation of fire and explosion. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash thoroughly after handling. Wash contaminated clothing before reuse.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Keep container dry. Do not store near acids. Contact with acids liberates toxic gas. Store away from incompatible materials (see Section 10 of the SDS).

BRUTAB 6S

Product number: 161021

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Adipic acid (CAS 124-04-9)	TWA	5 mg/m ³

Appropriate engineering controls Keep formation of dusts, particulates and fumes to a minimum. Ensure adequate ventilation, especially in confined areas. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection For prolonged or repeated skin contact use suitable protective gloves.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

General hygiene considerations When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	tablet
Form	Solid.
Color	white - off white
Odor	slight chlorine
Odor threshold	Not available.
pH	5.5 - 6.5
Melting point/freezing point	Not available.
Boiling point	Not Applicable
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Specific gravity	Not available.
VOC (Weight %)	0

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

BRUTAB 6S

Product number: 161021

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Acids. Alkaline Combustible material. reducing agents The active ingredient in this formulation is a strong oxidizing agent.
Hazardous decomposition products	Chlorine.

11. Toxicological information

Toxicological data

Product	Test Results
BRUTAB 6S (Mixture)	Acute Dermal LD50 Rabbit: > 4000 mg/kg / Acute Oral LD50 Rat: 1823 mg/kg /

Information on likely routes of exposure

Eye contact	Causes serious eye irritation. Dust in the eyes will cause irritation.
Skin contact	Direct contact with wet material or moist skin may cause severe irritation. Dry material is less irritating than wet material. Health injuries are not known or expected under normal use.
Ingestion	Harmful if swallowed. However, ingestion is not likely to be a primary route of occupational exposure. This product is sold in a tablet form.
Inhalation	May cause irritation to the respiratory system. This material is contained in a tablet form, respirable particulates are generally not encountered.

Symptoms related to the physical, chemical and toxicological characteristics Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Chronic effects Prolonged inhalation may be harmful.

Toxicological information Occupational exposure to the substance or mixture may cause adverse effects.

12. Ecological information

Ecotoxicity	Very toxic to aquatic life with long lasting effects.
Persistence and degradability	The materials used in this preparation will not persist in the environment. Hydrolysis products of cyanuric acid and chloride ion are biodegradable.
Bioaccumulative potential	This material does not contain chemicals that have known bioaccumulative potential. Trichloroisocyanuric acid hydrolyses in water liberating chlorine and cyanuric acid. These products are not bioaccumulative.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

BRUTAB 6S

Product number: 161021

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Adipic acid (CAS 124-04-9)

Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA (Superfund) reportable quantity

Adipic acid: 5000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

No

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Adipic acid (CAS 124-04-9)

Dichloroisocyanuric acid, sodium salt (CAS 2893-78-9)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Adipic acid (CAS 124-04-9)

Dichloroisocyanuric acid, sodium salt (CAS 2893-78-9)

US. Rhode Island RTK

Adipic acid (CAS 124-04-9)

BRUTAB 6S

Product number: 161021

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	04-22-2014
Revision date	06-19-2015
Version #	05
Further information	<p>This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:</p> <p>DANGER CORROSIVE Causes irreversible eye damage. Harmful if swallowed, inhaled or absorbed through the skin.</p>
Disclaimer	<p>The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.</p>

☒ Close this window

MSDS

Common Name: 08412 GUM FREE**Manufacturer:** ITW DYMON**MSDS Revision Date:** 8/26/2004**Grainger Item Number(s):** 3U024**Manufacturer Model Number(s):** BUBBLE BUSTER**MSDS Table of Contents**

Click the desired link below to jump directly to that section in the MSDS.

[SECTION I](#)[SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION](#)[SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS](#)[SECTION IV - FIRE AND EXPLOSION HAZARD DATA](#)[SECTION V - REACTIVITY DATA](#)[SECTION VI - HEALTH HAZARD DATA](#)[SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE](#)[SECTION VIII - CONTROL MEASURES](#)**MATERIAL SAFETY DATA SHEET**

MAY BE USED TO COMPLY WITH OSHA'S HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. STANDARD MUST BE CONSULTED FOR SPECIFIC REQUIREMENTS.

HMIS (R*):

HEALTH	1
FLAMMABILITY	4
REACTIVITY	0
PERSONAL PROTECTION	A

IDENTITY (AS USED ON LABEL AND LIST): 08412 GUM FREE**NOTE:**

BLANK SPACES ARE NOT PERMITTED. IF ANY ITEM IS NOT APPLICABLE, OR NO INFORMATION IS AVAILABLE, THE SPACE MUST BE MARKED TO INDICATE THAT.

SECTION I**MANUFACTURER'S NAME:** ITW DYMON**ADDRESS (NUMBER, STREET, CITY, STATE, AND ZIP CODE):**
805 EAST OLD 56 HIGHWAY
OLATHE, KANSAS 66061**EMERGENCY TELEPHONE NUMBER:** 1-800-535-5053**TELEPHONE NUMBER FOR INFORMATION:** 1-913-397-9889**DATE PREPARED:** AUGUST 26, 2004**SIGNATURE OF PREPARER (OPTIONAL):** REGULATORY DEPT.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENTS (SPECIFIC CHEMICAL IDENTITY; COMMON NAME(S))	CAS NO.	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	% (OPT.)
ISOBUTANE	75-28-5	800 PPM	800 PPM		60 - 100%
PROPANE	74-98-6	1000 PPM	ASPHYXIAN		15 - 40%

THIS PRODUCT IS NOT KNOWN TO CONTAIN ANY CHEMICAL LISTED OR IN CONCENTRATIONS REQUIRING REPORTING UNDER SARA TITLE III SEC. 313. REFER TO 40 CFR 372.

TSCA:

ALL INGREDIENTS ARE ON THE TSCA INVENTORY OR ARE NOT REQUIRED TO BE LISTED ON THE TSCA INVENTORY.

ANY SUBSTANCE LISTED AS HAZARDOUS BY THE STATES OF CALIFORNIA, FLORIDA, ILLINOIS, MICHIGAN, NEW JERSEY, OHIO, PENNSYLVANIA OR TEXAS IS DESCRIBED ABOVE IF KNOWN PRESENT IN REGULATED CONCENTRATIONS.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS**BOILING POINT:**

CONCENTRATE: -44 DEG. F

SPECIFIC GRAVITY (H₂O = 1):

CONCENTRATE: 0.57

PRESSURE (PSIG. @ 70 DEG. F): 100 +/- 5

MELTING POINT: NO DATA

VAPOR DENSITY (AIR = 1): GREATER THAN ONE (1)

EVAPORATION RATE (BUTYL ACETATE = 1): NO DATA

SOLUBILITY IN WATER: SLIGHT

pH: NOT APPLICABLE

APPEARANCE AND ODOR: CLEAR COLORLESS ODORLESS GAS IN AN AEROSOL CAN.

VOC'S: THIS PRODUCT CONTAINS 351 GRAMS PER LITER OR 100% BY WEIGHT VOC'S.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

USA FLAME PROJECTION TEST (ASTM D-3065):

GREATER THAN 24", FLASHBACK: EXTREMELY FLAMMABLE

FLAMMABLE LIMITS: NO DATA

LEL: NO DATA

UEL: NO DATA

EXTINGUISHING MEDIA:

USE WATER SPRAY TO KEEP CONTAINERS COOL.

CONTAINS AN EXTREMELY FLAMMABLE GAS.

SPECIAL FIRE FIGHTING PROCEDURES:

USE WATER SPRAY TO KEEP CONTAINERS COOL AND VAPORS DOWN. DO NOT ALLOW RUNOFF TO ENTER SEWERS OR PUBLIC WATERCOURSES. WEAR SELF-CONTAINED

BREATHING APPARATUS IN CHEMICAL FIRES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

AEROSOL CONTAINER (PRESSURIZED) MAY BURST IF HEATED OVER 120 DEG. F. EXTREMELY FLAMMABLE CONTENTS. VAPORS ARE HEAVIER THAN AIR AND MAY ACCUMULATE IN LOW LYING AREAS. VAPORS ARE EASILY IGNITED BY PILOT LIGHTS, FLAME, SPARKS, STATIC ELECTRICITY, ELECTRICAL MOTORS, SWITCHES, ETC.

SECTION V - REACTIVITY DATA

STABILITY:

UNSTABLE ()

STABLE (X)

CONDITIONS TO AVOID: EXTREME HEAT, DIRECT SUNLIGHT, IGNITION SOURCES

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: OXIDES OF CARBON

HAZARDOUS POLYMERIZATION:

MAY OCCUR ()

WILL NOT OCCUR (X)

CONDITIONS TO AVOID: NONE KNOWN

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

EYES?: YES

INHALATION?: YES

SKIN?: YES

INGESTION?: NO (UNLIKELY)

HEALTH HAZARDS (ACUTE AND CHRONIC):

DANGER. EXTREMELY FLAMMABLE LIQUID AND VAPOR. CAUSES EYE AND SKIN BURNS (FROSTBITE OR THERMAL TYPE). MAY BE HARMFUL IF INHALED. ASPHYXIATION HAZARD DUE TO POTENTIAL FOR DISPLACING OXYGEN. FOLLOW GOOD CHEMICAL HYGIENE PRACTICES TO AVOID THESE HAZARDS. CONTENTS UNDER PRESSURE.

CARCINOGENICITY: NONE KNOWN

NTP?: NO

IARC MONOGRAPHS?: NO

OSHA REGULATED?: NO

SIGNS AND SYMPTOMS OF EXPOSURE:

COLD OR FREEZING SENSATION ON SKIN OR IN EYES. DISORIENTATION, LACK OF COORDINATION, EXCITATION, HEADACHE, NAUSEA IF INHALED.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

PERSONS WITH PRE-EXISTING SKIN DISORDERS MAY BE AFFECTED.

FOLLOW GOOD CHEMICAL HYGIENE PRACTICES TO AVOID THIS HAZARD.

EMERGENCY AND FIRST AID PROCEDURES:

EYES:

FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES LIFTING EYELIDS TO INSURE COMPLETE REMOVAL. GET IMMEDIATE MEDICAL ATTENTION.

INGESTION:

UNLIKELY AS THIS PRODUCT IS A GAS AT ROOM TEMPERATURE AND PRESSURE.

INHALATION:

GET TO FRESH AIR. IF BREATHING HAS STOPPED, QUALIFIED PERSONNEL

SHOULD ADMINISTER ARTIFICIAL RESPIRATION.

SKIN:

FLUSH OR IMMERSE AREA(S) IN LUKEWARM WATER. IF SKIN IS NOT BURNED OR FROZEN, KEEP WARM AND STIMULATE CIRCULATION WITH MASSAGE. GET MEDICAL ATTENTION.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

DANGER, EXTREMELY FLAMMABLE GAS. ISOLATE TRAFFIC AND VENTILATE AREA. ELIMINATE ALL IGNITION SOURCES. WEAR PROTECTIVE GEAR AS NECESSARY. DIKE TO PREVENT SPREAD.

WASTE DISPOSAL METHOD:

CONSULT LOCAL, STATE AND FEDERAL REGULATIONS. DO NOT PUNCTURE OR INCINERATE CONTAINER. REPLACE CAP ON EMPTY CAN, WRAP, THEN DISCARD CONTAINER IF ALLOWED BY APPLICABLE STATUTES.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

DO NOT USE NEAR IGNITION SOURCES SUCH AS HEAT, SPARKS, OPEN FLAME, ETC. DIRECT SPRAY AWAY FROM FACE. REPLACE CAP WHEN NOT IN USE. DO NOT GET IN EYES, ON SKIN OR CLOTHING. DO NOT SMOKE WHILE USING. USE WITH ADEQUATE VENTILATION.

OTHER PRECAUTIONS:

FOLLOW LABEL DIRECTIONS CAREFULLY. KEEP OUT OF REACH OF CHILDREN. DO NOT DELIBERATELY CONCENTRATE AND INHALE VAPORS. STORE IN A COOL (UNDER 120 DEG. F) DRY LOCATION AWAY FROM HEAT, SPARKS, OPEN FLAME AND DIRECT SUNLIGHT.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE):

NOT USUALLY NECESSARY. USE WITH ADEQUATE VENTILATION. IF PELS OR TLVS ARE EXCEEDED (SEE SECTION II), USE AN APPROVED NIOSH\MSHA RESPIRATOR.

VENTILATION:

LOCAL EXHAUST: NOT USUALLY NECESSARY

MECHANICAL (GENERAL): ACCEPTABLE

SPECIAL: NONE

OTHER: NONE

PROTECTIVE GLOVES: ONLY IF DIRECT CONTACT POSSIBLE.

EYE PROTECTION: ONLY IF DIRECT CONTACT POSSIBLE.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

NOT USUALLY NECESSARY. IF DIRECT CONTACT POSSIBLE, WEAR APRON, BOOTS, FACE SHIELD, GLOVES, ETC.

WORK/HYGIENIC PRACTICES:

NORMAL. WASH THOROUGHLY BEFORE EATING, DRINKING, SMOKING, USING RESTROOMS, ETC.

WARNING!

THE USE OF THIS PRODUCT IS BEYOND THE CONTROL OF THE MANUFACTURER; THEREFORE, NO GUARANTEE, EXPRESSED OR IMPLIED, IS MADE AS TO THE EFFECTS

SPECIFICATIONS FOR SUCH PRODUCT. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, PRODUCTIVENESS, OR ANY OTHER MATTER, OF THIS PRODUCT. THE MANUFACTURER SHALL BE IN NO WAY RESPONSIBLE FOR THE IMPROPER USE OF THIS PRODUCT. THE SOLE AND EXCLUSIVE REMEDY AGAINST THE MANUFACTURER FOR BREACH OF WARRANTY SHALL BE REIMBURSEMENT OF THE PURCHASE PRICE OF THE PRODUCT IN THE EVENT THAT A DEFECTIVE CONDITION OF THE PRODUCT SHALL BE FOUND TO EXIST. NO OTHER REMEDY (INCLUDING BUT NOT LIMITED TO INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR INJURY TO PERSON OR PROPERTY OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE.

AUGUST 6, 2004

RA 11527-50

Material Safety Data Sheet

CHROMA INC

Manufacturer

205 BUCKY DRIVE

Address

LITITZ PA 17543

(717)626-8866

Phone Number (For Information)

(717)626-8866

Emergency Phone Number

Telex*

TRIARCO BUDGET WASHABLE PAINT

Identity (Trade Name As Used On Label)

4153.

MSDS Number*

CAS Number*

01/08

Date Prepared

Prepared By*

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS — Chemical Name & Common Names (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	% *	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED
PRODUCT IS WATER BASED, NON-TOXIC, NON-HAZARDOUS LIQUID TEMPERA IN ASSORTED COLORS. IT CARRIES THE AP SEAL AND IS CERTIFIED BY THE ART & CREATIVE MATERIALS INSTITUTE.				
1. WATER				
2. CALCIUM CARBONATE				
3. ASSORTED COLORED PIGMENTS				
4. ACRYLIC THICKENERS				
5. PRESERVATIVE - NON TOXIC AT LEVEL USED				
Non-Hazardous Ingredients				
TOTAL	100			

SECTION 2 - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point 215-275°F	Specific Gravity (H ₂ O = 1)	NOT KNOWN
Vapor Pressure (mm Hg and Temperature) NOT KNOWN	Melting Point	N/A
Vapor Density (Air = 1) LIGHTER THAN AIR	Evaporation Rate (= 1)	SLOWER THAN ETHER
Solubility in Water TOTALLY SOLUBLE	Water Reactive	N/A

Appearance and Odor THIN LIQUID TEMPERA IN ASSORTED COLORS. MAY HAVE SLIGHT AMMONIA SMELL.

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flash Point and Method Used N/A	Auto-ignition Temperature N/A	Flammability Limits in Air % by Volume N/A	LEL UNKNOWN	UEL UNKNOWN
Extinguisher Media N/A				
Special Fire Fighting Procedures N/A				

Unusual Fire and Explosion Hazards N/A

*Optional

SECTION 4 - REACTIVITY HAZARD DATA

PAGE 2 - TRIARCO BUDGET WASHABLE PAINT

STABILITY

☒ Stable
☐ Unstable

Conditions To Avoid N/A

Incompatibility (Materials to Avoid) NONE

Hazardous Decomposition Products NONE

HAZARDOUS POLYMERIZATION

☐ May Occur
☒ Will Not Occur

Conditions To Avoid N/A

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY

☐ Inhalation
☐ Skin Absorption

☐ Ingestion
☒ Not Hazardous

CARCINOGEN LISTED IN

☐ NTP
☐ IARC Monograph
☒ OSHA
☒ Not Listed

HEALTH HAZARDS

Acute NONE

Chronic NONE

Signs and Symptoms of Exposure NONE

Medical Conditions Generally Aggravated by Exposure NONE

EMERGENCY FIRST AID PROCEDURES - Seek medical assistance for further treatment, observation and support if necessary.

Eye Contact N/A

Skin Contact N/A

Inhalation N/A

Ingestion N/A

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (Specify Type)

NONE NEEDED UNDER NORMAL CONDITIONS OF USE

Protective Gloves

NOT REQUIRED

Eye Protection

NOT REQUIRED

VENTILATION TO BE USED

☐ Local Exhaust N/A
☐ Other (specify) N/A

☐ Mechanical (general)

N/A

☐ Special

N/A

Other Protective Clothing and Equipment

NOT REQUIRED

Hygienic Work Practices

AS WITH NORMAL WATER BASED PAINT PRODUCTS

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE / LEAK PROCEDURES

Steps to be Taken If Material Is Spilled Or Released

DIKE AND CONTAIN SPILL

Waste Disposal Methods

NORMAL DISPOSAL

Precautions to be Taken in Handling and Storage

NO PARTICULAR PRECAUTIONS

Other Precautions and/or Special Hazards

NONE

NFPA Rating*

Health

Flammability

Reactivity

Special

HMIS Rating*

Health

Flammability

Reactivity

Personal Protection

* Optional

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Reorder No. 2217-2

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Buffer Solution pH 2.00
Product code : LC12220

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For laboratory and manufacturing use only.

1.3. Details of the supplier of the safety data sheet

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin corrosion/irritation Category 2 H315
Serious eye damage/eye irritation Category 2A H319
Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US) : Warning
Hazard statements (GHS-US) : H315 - Causes skin irritation
H319 - Causes serious eye irritation
Precautionary statements (GHS-US) : P264 - Wash exposed skin thoroughly after handling
P280 - Wear eye protection, protective gloves
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362 - Take off contaminated clothing and wash it before reuse

2.3. Other hazards

Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Buffer Solution pH 2.00

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	GHS-US classification
Water	(CAS No) 7732-18-5	99.59	Not classified
Potassium Chloride	(CAS No) 7447-40-7	0.37	Not classified
Hydrochloric Acid, 37% w/w	(CAS No) 7647-01-0	0.04	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402

Full text of hazard classes and H-statements : see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause respiratory irritation.
- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes serious eye irritation.
- Symptoms/injuries after ingestion : Irritation of the gastric/intestinal mucosa.
- Symptoms/injuries upon intravenous administration : Not available.
- Chronic symptoms : Affection/discolouration of the teeth. Dry skin. Inflammation/damage of the eye tissue. Irritation of the respiratory tract.

4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Not flammable.
- Explosion hazard : Not applicable.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Safety glasses.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

Buffer Solution pH 2.00

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

Hygiene measures : Wash exposed skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use.

Incompatible products : silver nitrate. metals. Strong bases.

Incompatible materials : Sources of ignition. Direct sunlight.

Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: (strong) bases.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Potassium Chloride (7447-40-7)

Not applicable

Hydrochloric Acid, 37% w/w (7647-01-0)

ACGIH	ACGIH Ceiling (mg/m³)	2.98 mg/m³
ACGIH	ACGIH Ceiling (ppm)	2 ppm
OSHA	OSHA PEL (Ceiling) (mg/m³)	7 mg/m³
OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm
IDLH	US IDLH (ppm)	50 ppm
NIOSH	NIOSH REL (ceiling) (mg/m³)	7 mg/m³
NIOSH	NIOSH REL (ceiling) (ppm)	5 ppm

Water (7732-18-5)

Not applicable

8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment : Safety glasses. Gloves.



Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Respiratory protection not required in normal conditions.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Clear, colorless liquid.

Buffer Solution pH 2.00

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Color	: Colorless
Odor	: Odorless
Odor threshold	: No data available
pH	: 2 @ 25°C
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 1
Solubility	: Soluble in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: Not applicable.
Oxidizing properties	: None.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

silver nitrate. metals. Strong bases.

10.6. Hazardous decomposition products

Hydrogen chloride.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Skin and eye contact

Acute toxicity : Not classified

Potassium Chloride (7447-40-7)

LD50 oral rat	2600 mg/kg
ATE US (oral)	2600.000 mg/kg body weight

Hydrochloric Acid, 37% w/w (7647-01-0)

LD50 oral rat	700 mg/kg
LD50 dermal rabbit	5010 mg/kg

Buffer Solution pH 2.00

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hydrochloric Acid, 37% w/w (7647-01-0)	
ATE US (oral)	700.000 mg/kg body weight
ATE US (dermal)	5010.000 mg/kg body weight
Water (7732-18-5)	
LD50 oral rat	≥ 90000 mg/kg
ATE US (oral)	90000.000 mg/kg body weight
Skin corrosion/irritation	: Causes skin irritation. pH: 2 @ 25°C
Serious eye damage/irritation	: Causes serious eye irritation. pH: 2 @ 25°C
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Hydrochloric Acid, 37% w/w (7647-01-0)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: Irritation of the gastric/intestinal mucosa.
Symptoms/injuries upon intravenous administration	: Not available.
Chronic symptoms	: Affection/discolouration of the teeth. Dry skin. Inflammation/damage of the eye tissue. Irritation of the respiratory tract.

SECTION 12: Ecological information

12.1. Toxicity

Potassium Chloride (7447-40-7)	
EC50 Daphnia 1	825 mg/l
Hydrochloric Acid, 37% w/w (7647-01-0)	
LC50 fish 1	282 mg/l (LC50; 96 h)
EC50 Daphnia 1	< 56 mg/l (EC50; 72 h)

12.2. Persistence and degradability

Buffer Solution pH 2.00	
Persistence and degradability	Not established.
Potassium Chloride (7447-40-7)	
Persistence and degradability	Not established.
Hydrochloric Acid, 37% w/w (7647-01-0)	
Persistence and degradability	Biodegradability: not applicable. No test data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

Buffer Solution pH 2.00

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Water (7732-18-5)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Buffer Solution pH 2.00	
Bioaccumulative potential	Not established.

Potassium Chloride (7447-40-7)	
Bioaccumulative potential	Not established.

Hydrochloric Acid, 37% w/w (7647-01-0)	
Log Pow	0.25 (QSAR)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Water (7732-18-5)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

Hydrochloric Acid, 37% w/w (7647-01-0)	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

Effect on the global warming	: No known effects from this product.
GWPmix comment	: No known effects from this product.
Other information	: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Hydrochloric Acid, 37% w/w	CAS No 7647-01-0	0.04%
----------------------------	------------------	-------

Hydrochloric Acid, 37% w/w (7647-01-0)	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

Buffer Solution pH 2.00

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

15.2. International regulations

CANADA

Buffer Solution pH 2.00	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects
Potassium Chloride (7447-40-7)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
Hydrochloric Acid, 37% w/w (7647-01-0)	
WHMIS Classification	Class E - Corrosive Material
Water (7732-18-5)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

EU-Regulations

No additional information available

National regulations

Potassium Chloride (7447-40-7)	
Not listed on the Canadian IDL (Ingredient Disclosure List)	

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date : 12/20/2016

Other information : None.

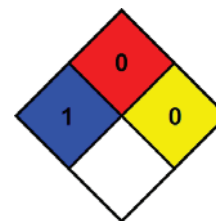
Full text of H-phrases: see section 16:

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H402	Harmful to aquatic life

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : B

B - Safety glasses, Gloves

SDS US LabChem

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

MSDS #: 145.00

Revision Date: November 25, 2002

Section 1 — Chemical Product and Company Identification

Buffer Solution pH 4.00

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Hydrochloric Acid (7647-01-0) <0.5%, Potassium Acid Phthalate (877-24-7) <1.5%, and Water (7732-18-5) >98%.

CAS#: None Established

Section 3 — Hazards Identification

Red, colored liquid.
Mildly irritating to skin, eyes and mucous membranes.

FLINN AT-A-GLANCE

Health-0
Flammability-0
Reactivity-0
Exposure-1
Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.
Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.
Eye: Immediately flush with fresh water for 15 minutes.
External: Wash continuously with fresh water for 15 minutes.
Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable, non combustible liquid.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area and ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic Miscellaneous. Store with other buffers.

Section 8 — Exposure Controls , Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Red, colored liquid.
Specific Gravity: 1.0

Section 10 — Stability and Reactivity

Avoid heat.
Shelf life: Fair.

Section 11 — Toxicological Information

Acute effects: Mild irritant
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: N.A.
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26b is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

MSDS #: 146.00

Revision Date: November 25, 2002

Section 1 — Chemical Product and Company Identification

Buffer Solution pH 5.00

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Sodium Hydroxide (1310-73-2) <0.1%, Potassium Acid Phthalate (877-24-7) <1.5%, and Water (7732-18-5) >98%.

CAS#: None Established

Section 3 — Hazards Identification

Colorless liquid.

Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-0

Exposure-0

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable, non combustible liquid.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area and ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic Miscellaneous. Store with other buffers.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Colorless liquid.

Specific Gravity: 1.0

Section 10 — Stability and Reactivity

Avoid heat.

Shelf life: Fair.

Section 11 — Toxicological Information

Acute effects: Mild irritant

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD50: N.A.

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #26b is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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Flinn--"Your Safer Source for Chemicals"

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 148.00

Revision Date: January 16, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Buffer Solution, pH 7.00

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Potassium phosphate monobasic	7778-77-0	KH_2PO_4	136.09	<1%
Sodium hydroxide	1310-73-2	NaOH	39.997	<0.2%
Water	7732-18-5	H_2O	18.00	>98%

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic Miscellaneous. Store with other buffers.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves and eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Green colored liquid. Odorless.

pH: 7.00

Specific gravity: 1.0

SECTION 10 — STABILITY AND REACTIVITY

Avoid heat.

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

ORL-RAT LD₅₀: N.A.

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: January 16, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 150.00

Revision Date: January 16, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Buffer Solution, pH 9.00

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Boric acid	10043-35-3	H ₃ BO ₃	61.83	<0.5%
Potassium chloride	7477-40-7	KCl	74.56	<0.5%
Sodium hydroxide	1310-73-2	NaOH	39.997	<0.2%
Water	7732-18-5	H ₂ O	18.00	>98%

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P301+P330+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic Miscellaneous. Store with other buffers.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless liquid. Odorless.

pH: 9.00

Specific gravity: 1.0

SECTION 10 — STABILITY AND REACTIVITY

Avoid heat.

Shelf life: Fair.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

ORL-RAT LD₅₀: 2660 mg/kg as boric acid

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: January 16, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 151.00

Revision Date: October 2, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Buffer Solution, pH 10.00

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Reproductive toxicity (Category 1). May damage fertility or the unborn child (H360). Obtain special instructions before use (P201). Do not handle until all safety precautions have been read and understood (P202). Use personal protective equipment as required (P281).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2B). Causes skin and eye irritation (H315+H320).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Sodium tetraborate decahydrate	1303-96-4	$\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$	381.42	0.5%
Buffer preservative, colored or colorless	Mixture	Mixture	Mixture	0.4%
Methylparaben solution (preservative)	Mixture	Mixture	Mixture	0.2%
Sodium hydroxide	1310-73-2	NaOH	39.997	<0.1%
Water	7732-18-5	H_2O	18.00	98%

SECTION 4 — FIRST AID MEASURES

If exposed or concerned: Get medical advice or attention (P308+P313).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic Miscellaneous. Store with other buffers.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Blue or colorless liquid. Odorless.

pH: 10

Specific gravity: 1.0

SECTION 10 — STABILITY AND REACTIVITY

Avoid heat.

Shelf life: Fair.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Mild irritant.

ORL-RBT **LDL**₀: 500 mg/kg (as sodium hydroxide)

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: 50 mg/24H (as sodium hydroxide)

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Sodium hydroxide solution. Hazard class: B, Corrosive. UN number: UN1824.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: October 2, 2014

396.

MATERIAL SAFETY DATA SHEET**BULK-KRYLIC**

TRAVEL NAME ON LABEL

ROCK PAINT DISTRIBUTING CORP.

MANUFACTURER

MSDS NUMBER

365 SUNNYSIDE DR. P.O. BOX 482

ADDRESS

CAS NUMBER

MILTON, WI 53563

JANUARY 2009

DATE PREPARED

(608)868-6873 (920) 563-8545

PHONE NUMBER(FOR INFORMATION)

PREPARED BY

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS: CHEMICAL NAME & COMMON NAMES	%	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED
WATER				
ACRYLIC EMULSION				
PIGMENT: ASSORTED NON-TOXIC COLORS				
CALCIUM CARBONATE				
PROPYLENE GLYCOL				
CELLULOSIC				

AS PER ASTM D-4236 AND AS PER THE ART AND CRAFT MATERIALS
INSTITUTE (ACMI) INC. THIS PAINT HAS BEEN CERTIFIED NON-TOXIC.

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT -	ABOUT 212	SPECIFIC GRAVITY (H ₂ O=1) -	ABOUT 9LBS PER GAL
VAPOR PRESSURE (mm Hg & TEMPERATURE) -	17mm Hg	MELTING POINT -	N/A
VAPOR DENSITY (AIR=1) -	NOT AVAILABLE	EVAPORATION RATE (WATER=1) -	SLOWER
SOLUBILITY IN WATER -	DILUTABLE	WATER REACTIVE -	N/A
APPEARANCE & ODOR -	SLIGHT AMMONIA ODOR, OR NO ODOR PRESENT		

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT & METHOD USED	AUTO	IGNITION TEMPERATURE	FLAMMABILITY LIMITS IN AIR % BY VOLUME	
N/A		N/A	N/A	
EXTINGUISHER MEDIA			LEL	UEL
FOAM - DRY CHEMICAL - CO ₂ - WATER SPRAY OR FOG				
SPECIAL FIRE FIGHTING PROCEDURES				
N/A				
UNUSUAL FIRE AND EXPLOSION HAZARDS				
N/A				

SECTION 4 - REACTIVITY HAZARD DATA

BULK-KRYLIC - 2

STABILITY

☒ STABLE☐ UNSTABLE

CONDITIONS TO AVOID

NONE KNOWN

INCOMPATIBILITY (MATERIALS TO AVOID) NONE KNOWN-HOWEVER PRODUCT PROPERTIES MAY BE ALTERED
BY MIXING WITH SOME MATERIALS.

HAZARDOUS DECOMPOSITION PRODUCTS THERMAL DECOMPOSITION IN THE PRESENCE OF AIR MAY YIELD CARBON
MONOXIDE AND/OR CARBON DIOXIDE AND TRACES OF MONOMER.

HAZARDOUS POLYMERIZATION

☐ MAY OCCUR☒ WILL NOT OCCUR

CONDITIONS TO AVOID

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY

☐ INHALATION☐ INGESTION☐ SKIN ABSORPTION☒ NOT HAZARDOUS

CARCINOGEN LISTED IN

☐ NTP☐ OSHA☐ IARC MONOGRAPH☐ NOT LISTED

HEALTH HAZARDS

☐ ACUTE☐ CHRONIC

SIGNS AND SYMPTOMS

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

EMERGENCY FIRST AID PROCEDURES -**SEEK MEDICAL ASSISTANCE FOR FURTHER TREATMENT, OBSERVATION AND SUPPORT IS NECESSARY.**

EYE CONTACT - DIRECT CONTACT WITH EMULSION MAY RESULT IN IRRITATION. FLUSH EYES IMMEDIATELY WITH
PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CONSULT A PHYSICIAN. REMOVE CONTACTS FROM VICTIM.

SKIN CONTACT - PROLONGED OR REPEATED CONTACT WITH EMULSION MAY CAUSE SOME SKIN IRRITATION. WASH
SKIN THOROUGHLY WITH SOAP AND WATER; IF DRENCHED REMOVE AND WASH CLOTHING BEFORE REUSE.

INHALATION - N/A

INGESTION - IF VICTIM IS CONSCIOUS, GIVE TWO GLASSES OF WATER TO DRINK AND CALL A PHYSICIAN.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE) -

PROTECTIVE GLOVES -

RUBBER GLOVES RECOMMENDED

EYE PROTECTION -

CHEMICAL GOGGLES WITH EYE GUARD

VENTILATION TO BE USED -

LOCAL EXHAUSE -

MECHANICAL (GENERAL) -

SPECIAL -

OTHER (SPECIFY) -

OTHER PROTECTIVE CLOTHING AND EQUIPMENT -

N/A

HYGIENIC WORK PRACTICES -

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED -

ABSORB WITH DRYING MATERIAL OR FLUSH SPILLED MATERIAL INTO SUITABLE RETAINING AREA OR CONTAINER. PREVENT
SPILLED LIQUID FROM ENTERING SEWERS, STORM DRAINS, DRAINAGE SYSTEMS AND NATURAL WATERWAYS.

WASTE DISPOSAL METHODS -

DISPOSE OF PRODUCT IN ACCORDANCE WITH APPLICABLE LOCAL, COUNTY, STATE AND FEDERAL REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

SHOULD BE STORED AT ROOM TEMPERATURE TO PROLONG SHELF LIFE.

KEEP FROM FREEZING AND FROM EXCESSIVE HEAT.

OTHER PRECAUTIONS AND/OR SPECIAL HAZARDS -

N/A

HIMS RATING HEALTH _____ FLAMMABILITY _____ REACTIVITY _____ PERSONAL PROTECTION _____

MSDS # 137.00

Butylated Hydroxy Toluene



Section 1: Product and Company Identification

Butylated Hydroxy Toluene

Synonyms/General Names: Butylated Hydroxytoluene; BHT; 2, 6-Di-Tert-Butyl-4-Methylphenol**Product Use:** For educational use only**Manufacturer:** Columbus Chemical Industries, Inc., Columbus, WI 53925.

24 Hour Emergency Information Telephone Numbers

CHEMTREC (USA): 800-424-9300**CANUTEC (Canada): 613-424-6666**

Scholar Chemistry; 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.Scholarchemistry.com

Section 2: Hazards Identification

*White granular solid; faint odor.***CAUTION!** Moderately toxic by ingestion.

Target organs: None known.

HMIS (0 to 4)

Health	2
Fire Hazard	1
Reactivity	0

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) if used properly.

Section 3: Composition / Information on Ingredients

2, 6-Di-Tert-Butyl-4-Methylphenol, (128-37-0), 100%.

Section 4: First Aid Measures

*Always seek professional medical attention after first aid measures are provided.***Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.**Ingestion:** Call Poison Control immediately. Rinse mouth with cold water. Give victim 1-2 cups of water or milk to drink. Induce vomiting immediately.**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration.

Section 5: Fire Fighting Measures

Combustible solid. When heated to decomposition, emits acrid fumes.

Protective equipment and precautions for firefighters: Use foam or dry chemical to extinguish fire.

Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to mechanical impact or static discharge.



Section 6: Accidental Release Measures

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Sweep up spill and place in sealed bag or container for disposal. Wash spill area after pickup is complete. See Section 13 for disposal information.

Section 7: Handling and Storage

Green**Handling:** Use with adequate ventilation and do not breathe dust or vapor. Avoid contact with skins, eyes, or clothing. Wash hands thoroughly after handling.**Storage:** Store in General Storage Area [Green Storage] with other items with no specific storage hazards. Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.

Section 8: Exposure Controls / Personal Protection

Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking. Use NIOSH-approved respirator with a dust cartridge. Exposure guidelines: Butylated Hydroxy Toluene: OSHA PEL: N/A, ACGIH: TLV: N/A, STEL: N/A.

Section 9: Physical and Chemical Properties

Molecular formula	C ₁₅ H ₂₄ O.	Appearance	White granular.
Molecular weight	220.36.	Odor	Faint odor.
Specific Gravity	N/A.	Odor Threshold	N/A.
Vapor Density (air=1)	7.6.	Solubility	Insoluble.
Melting Point	69.44°C.	Evaporation rate	N/A . (<i>Butyl acetate = 1</i>).
Boiling Point/Range	265°C.	Partition Coefficient	N/A . (<i>log P_{OW}</i>).
Vapor Pressure (20°C)	N/A.	pH	N/A.
Flash Point:	> 126.67°C.	LEL	N/A.
Autoignition Temp.:	N/A.	UEL	N/A.

N/A = Not available or applicable

Section 10: Stability and Reactivity

Avoid heat and moisture.

Stability: Stable under normal conditions of use and storage.

Incompatibility: Oxidizing agents, strong acids.

Shelf life: Indefinite if stored properly.

Section 11: Toxicology Information

Acute Symptoms/Signs of exposure: *Eyes:* Redness, tearing, itching, burning, conjunctivitis. *Skin:* Redness, itching.

Ingestion: Irritation and burning sensations of mouth and throat, nausea, vomiting and abdominal pain. **Inhalation:** Irritation of mucous membranes, coughing, wheezing, shortness of breath,

Chronic Effects: No information found.

Sensitization: none expected

Butylated Hydroxy Toluene: LD50 [oral, rat]; 980 mg/kg; LC50 [rat]; N/A; LD50 Dermal [rabbit]; 500 mg/Mild

Material has not been found to be a carcinogen nor produce genetic, reproductive, or developmental effects.

Section 12: Ecological Information

Ecotoxicity (aquatic and terrestrial): Ecological impact has not been determined.

Section 13: Disposal Considerations

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Small amounts of this material may be suitable for sanitary sewer or trash disposal.

Section 14: Transport Information

DOT Shipping Name: Not regulated by DOT.

Canada TDG: Not regulated by TDG.

DOT Hazard Class:

Hazard Class:

Identification Number:

UN Number:

Section 15: Regulatory Information

EINECS: Not listed.

WHMIS Canada: Not WHMIS Controlled.

TSCA: All components are listed or are exempt.

California Proposition 65: Not listed.

The product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Section 16: Other Information

Current Issue Date: January 23, 2009

Disclaimer: Scholar Chemistry and Columbus Chemical Industries, Inc., ("S&C") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because S&C has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. S&C makes no warranty, expressed or implied, including (without limitation) warranties with respect to the completeness or continuing accuracy of the information contained herein or with respect to fitness for any particular use.

The Valspar Corporation

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Material Identification

Product ID: 140.0001000
Product Name: WATERPROOFING CRYSTAL CLEAR
Product Use: Paint product.
Print date: 25/Apr/2008
Revision Date: 24/Apr/2008

Company Identification

The Valspar Corporation - Architectural Coatings Division
1191 Wheeling Road
Wheeling, IL 60090
Manufacturer's Phone: 1-847-520-8580

24-Hour Medical Emergency Phone: 1-888-345-5732

2. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

If this section is blank there are no hazardous components per OSHA guidelines.

3. HAZARDS IDENTIFICATION

Primary Routes of Exposure:

Inhalation
Ingestion
Skin absorption

Emergency Overview:

This section not in use.

This product contains ingredients that may contribute to the following potential acute health effects:

Inhalation Effects:

None known.

Eye Contact:

None known.

Skin Contact:

None known.

Acute Ingestion:

None known

Other Effects:

None known

This product contains ingredients that may contribute to the following potential chronic health effects:

See Section 11 for toxicological information about Mutagens, Teratogens and Carcinogens.

If this section is blank, no information is available.

4. FIRST AID MEASURES

Inhalation:

If affected by inhalation, move victim to fresh air. If symptoms persist, seek medical attention.

Eye Contact:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

Skin Contact:

In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. If irritation persists get medical attention.

Ingestion:

If swallowed, contact medical personnel immediately to determine best course of action.

Medical conditions aggravated by exposure: Any respiratory or skin condition.

5. FIRE FIGHTING MEASURES

Flash point (Fahrenheit):	205° F (96° C) TCC/PM
Lower explosive limit:	Not available. %
Upper explosive limit:	Not available. %
Autoignition temperature:	Not available. ° F (° C)
Sensitivity to impact:	No.
Sensitivity to static discharge:	Sensitivity to static discharge is not expected.
Hazardous combustion products:	See Section 10.

Unusual fire and explosion hazards:

None known.

Extinguishing media:

Carbon dioxide, dry chemical, foam and/or water fog.

Fire fighting procedures:

Use water spray to cool nearby containers and structures exposed to fire.

6. ACCIDENTAL RELEASE MEASURES

Action to be taken if material is released or spilled:

Ventilate area. Remove spills with inert absorbent. Avoid contact with eyes.

7. HANDLING AND STORAGE

Precautions to be taken in handling and storage:

Keep container closed when not in use. Keep from freezing. Since emptied containers may contain product residue, follow all label warnings, even after container is emptied. Do not cut, drill, grind, or weld on or near this container.

8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

Personal Protective Equipment

Eye and face protection:

Avoid contact with eyes. Wear chemical goggles if there is the possibility of contact or splashing in the eye.

Skin protection:

Appropriate chemical resistant gloves should be worn. To prevent skin contact wear protective clothing covering all exposed areas.

Respiratory protection:

If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

Ventilation

Required when spraying or applying in confined area.

Exposure Guidelines**OSHA Permissible Exposure Limits (PEL's)****ACGIH Threshold Limit Value (TLV's)**

If this section is blank, no information is available.

9. PHYSICAL PROPERTIES

Odor:	Normal for this product type.
Physical State:	Liquid
pH:	Not determined.
Vapor pressure:	24 mmHG @ 68° F (20° C)
Vapor density (air = 1.0):	.6
Boiling point:	212° F (100° C)
Solubility in water:	Soluble
Coefficient of water/oil distribution:	Not determined.
Density (lbs per US gallon):	8.33
Specific Gravity:	1
Evaporation rate (butyl acetate = 1.0):	.4

10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	None known.
Incompatibility:	Avoid water-reactive materials, heat or contact with peroxides or other catalysts.
Hazardous Polymerization:	None anticipated.
Hazardous Decomposition Products:	Chlorine.

Sensitivity to static discharge: Sensitivity to static discharge is not expected.

11. TOXICOLOGICAL INFORMATION

Mutagens:
None known.

Teratogens:
None known.

12. ECOLOGICAL DATA

12. ECOLOGICAL DATA

Not available at this time.

13. DISPOSAL CONSIDERATIONS

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation

Proper Shipping Name: PAINT, NOT REGULATED
UN ID Number: NRPAIN

U.S. Highway & Rail Shipments

The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

International Air Transport Association:

Proper Shipping Name: PAINT, NOT REGULATED
UN ID Number: NRPAIN

International Maritime Organization:

Proper Shipping Name: PAINT, NOT REGULATED
Non-Bulk UN ID Number: NRPAIN

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

SARA 311/312 Hazard Class:

Acute: No
Chronic: No
Flammability: No
Reactivity: No
Sudden Pressure: No

U.S. STATE REGULATIONS:

Pennsylvania Right To Know:

Additional Non-Hazardous Materials

WATER

7732-18-5

Rule 66 status of product

Not photochemically reactive.

INTERNATIONAL REGULATIONS - Chemical Inventories

TSCA Inventory:

All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

Canada Domestic Substances List:

Not all components in this product are listed on the Domestic Substances List.

16. OTHER INFORMATION

HMIS Codes

Product ID: 140.0001000

16. OTHER INFORMATION

Health:	0
Flammability:	1
Reactivity:	1
PPE:	X - See Section 8 for Personal Protective Equipment (PPE).

Abbreviations:

OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

Disclaimer:

The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product name	Cal-Blast™ (4132-20)
CAS #	Mixture
Product Use	Cleaner
Manufacturer	Nu-Calgon 2008 Altom Court St. Louis, MO 63146 US

2. Hazards Identification

Emergency overview	DANGER Contents under pressure. Containers may explode when heated. Toxic. CONTAINS MATERIAL WHICH MAY CAUSE CANCER. MAY CAUSE ALLERGIC SKIN REACTION. Contains a potential mutagen. CAUSES SKIN IRRITATION. CAUSES EYE IRRITATION. CAUSES RESPIRATORY TRACT IRRITATION.
Potential short term health effects	
Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Eyes	Causes irritation.
Skin	Contact with skin can cause irritation and allergic reaction (sensitisation) in some individuals.
Inhalation	This product may be fatal if it is inhaled. Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).
Ingestion	May cause stomach distress, nausea or vomiting.
Target organs	Eyes. Skin. Liver. Lungs. Heart. Central nervous system.
Chronic effects	Prolonged or repeated exposure can cause drying, defatting and dermatitis.
Signs and symptoms	Symptoms are prostration, gasping, pallor, and uncoordinated movements. Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Potential environmental effects	See section 12.

3. Composition/Information on Ingredients

Components	CAS #	Percent
Methylene chloride	75-09-2	60 - 100
d-Limonene	5989-27-5	1 - 5

4. First Aid Measures

First aid procedures	
Eye contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Obtain medical attention immediately.
Skin contact	Immediately flush with water. Wash with soap and water. Obtain medical attention if irritation persists.
Inhalation	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.
Ingestion	Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.
Notes to physician	Symptoms may be delayed.

General advice	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children. Do not puncture or incinerate container.
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5. Fire Fighting Measures

Flammable properties	Not flammable by WHMIS criteria. Aerosol flame extension: None Containers may explode when heated.
Extinguishing media	
Suitable extinguishing media	Water. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Contents under pressure. Pressurised container may explode when exposed to heat or flame. Cool containers with flooding quantities of water until well after fire is out.
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Chlorine gas. Phosgene. Oxides of carbon.
Explosion data	
Sensitivity to mechanical impact	Not available.
Sensitivity to static discharge	Not available.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not discharge into lakes, streams, ponds or public waters.
Methods for containment	Stop leak if you can do so without risk. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Large Spills: Wet down with water and dike for later disposal. Before attempting clean up, refer to hazard data given above. Remove sources of ignition. Although the chance of a significant spill or leak is unlikely in aerosol containers, in the event of such an occurrence, absorb spilled material with a non-flammable absorbent such as sand or vermiculite. After removal flush contaminated area thoroughly with water.

7. Handling and Storage

Handling	Use only with adequate ventilation. Avoid breathing vapours or mists of this product. Do not get this material in your eyes, on your skin, or on your clothing. Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash thoroughly after handling.
Storage	Do not store at temperatures above 49°C (120.2°F). Keep away from heat, open flames or other sources of ignition. Keep out of reach of children.

8. Exposure Controls/Personal Protection

Occupational exposure limits

ACGIH Biological Exposure Indices Components

	Type	Value
Methylene chloride (CAS 75-09-2)	BEI	0.3 mg/l

US. ACGIH Threshold Limit Values

Components	Type	Value
Methylene chloride (CAS 75-09-2)	TWA	50 ppm
Exposure limits	Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH.	
Engineering controls	Provide adequate ventilation.	
Personal protective equipment		
Eye/Face protection	Wear chemical goggles.	
Hand protection	Rubber gloves. Confirm with a reputable supplier first.	
Skin and body protection	As required by employer code.	
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).	
General hygiene considerations	Wash hands and face before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practices. When using do not eat or drink.	

9. Physical and Chemical Properties

Appearance	Clear
Colour	Colourless
Form	Aerosol.
Odour	Solvent
Odour threshold	Not available.
Physical state	Gas.
pH	Not available.
Freezing point	Not available.
Boiling point	Not available.
Pour point	Not available.
Evaporation rate	> 1 (BuAc=1)
Flash point	Not available.
Auto-ignition temperature	556 °C (1032.8 °F)
Flammability Limits in Air, Upper, % by Volume	< 19
Flammability Limits in Air, Lower, % by Volume	> 12
Heat of combustion	Not available.
Vapour pressure	Not available.
Vapour density	>= 1
Specific gravity	1.29 - 1.33
Partition coefficient (n-octanol/water)	Not available.
Solubility (Water)	Not available.
Relative density	Not available.
Viscosity	Not available.
VOC	Not available
Percent volatile	100

10. Stability and Reactivity

Reactivity	Reacts vigorously with alkaline material or metals.
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Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals. Aerosol containers are unstable at temperatures above 49°C (120.2°F).
Incompatible materials	Caustics. Acids. Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Chlorine gas. Phosgene.

11. Toxicological Information

Toxicological data

Components	Species	Test results
d-Limonene (CAS 5989-27-5)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Mouse	5600 mg/kg
	Rat	4400 mg/kg
Methylene chloride (CAS 75-09-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2700 mg/kg
<i>Inhalation</i>		
LC50	Guinea pig	11600 ppm, 6 Hours
		40.2 mg/l, 6 Hours
	Mouse	14400 ppm, 7 Hours
		56.2 mg/l, 7 Hours
		51.5 mg/l, 2 Hours
		49.1 mg/l, 6 Hours
	Rat	76000 mg/l/4h
		14250 mg/m3
		2000 mg/l, 15 Minutes
		88 mg/l, 900 Days
		79 mg/l, 2 Hours
		52 mg/l, 6 Hours
<i>Oral</i>		
LD50	Rat	1410 mg/kg

Effects of acute exposure

Eye contact	Causes irritation.
Skin contact	Contact with skin can cause irritation and allergic reaction (sensitisation) in some individuals.
Inhalation	This product may be fatal if it is inhaled. Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).
Ingestion	May cause stomach distress, nausea or vomiting.
Sensitisation	Contains a potential skin sensitizer.
Chronic effects	Non-hazardous by WHMIS criteria.
Carcinogenicity	See below.

ACGIH Carcinogens

Methylene chloride (CAS 75-09-2)

A3 Confirmed animal carcinogen with unknown relevance to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

d-Limonene (CAS 5989-27-5)

Volume 73 - 3 Not classifiable as to carcinogenicity to humans.

Methylene chloride (CAS 75-09-2)

Volume 71 - 2B Possibly carcinogenic to humans.

Mutagenicity	Methylene chloride is considered mutagenic based on positive results obtained in mice exposed by inhalation.
Reproductive effects	Non-hazardous by WHMIS criteria.
Teratogenicity	Non-hazardous by WHMIS criteria.
Name of Toxicologically Synergistic Products	Not available.

12. Ecological Information

Ecotoxicity	See below
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Ecotoxicological data**Components**

d-Limonene (CAS 5989-27-5)

Aquatic

Species	Test results
Crustacea	EC50
Water flea (<i>Daphnia pulex</i>)	69.6 mg/l, 48 hours
Fish	LC50
Fathead minnow (<i>Pimephales promelas</i>)	0.619 - 0.796 mg/l, 96 hours

Methylene chloride (CAS 75-09-2)

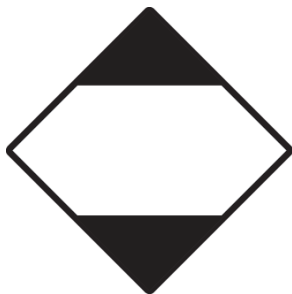
Species	Test results
Algae	IC50
Algae	500 mg/L, 72 Hours
Crustacea	EC50
Daphnia	1689.5 mg/L, 48 Hours
Aquatic	
Crustacea	EC50
Water flea (<i>Daphnia magna</i>)	1250 mg/l, 48 hours
Fish	LC50
Fathead minnow (<i>Pimephales promelas</i>)	140.8 - 277.8 mg/l, 96 hours

Persistence and degradability Not available.**Bioaccumulation/accumulation** Not available**Mobility in environmental media** Not available.**Environmental effects** Not available.**Aquatic toxicity** Not available.**Partition coefficient**

d-Limonene	4.232
Methylene chloride	1.25

Chemical fate information Not available.**13. Disposal Considerations****Disposal instructions** Dispose in accordance with all applicable regulations.**Waste from residues / unused products** Not available**Contaminated packaging** Not available**14. Transport Information****Transportation of Dangerous Goods (TDG - Canada)****Basic shipping requirements:**

UN number	UN1950
Proper shipping name	AEROSOLS, non-flammable, containing substances in Class 6.1, packing group III
Hazard class	Limited Quantity - Canada
Special provisions	80



15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada CEPA Schedule I: Listed substance

Methylene chloride (CAS 75-09-2)

Listed.

Canada NPRI VOCs with Additional Reporting Requirements: Mass reporting threshold/Identification Number

d-Limonene (CAS 5989-27-5)

1 TONNES

Canada WHMIS Ingredient Disclosure: Threshold limits

d-Limonene (CAS 5989-27-5)

1 %

Methylene chloride (CAS 75-09-2)

0.1 %

WHMIS status

Controlled

WHMIS Classification

Class A - Compressed Gas, Class D - Division 1B, 2A, 2B

WHMIS labeling



Inventory status

Country(s) or region

Canada

Inventory Name

Domestic Substances List (DSL)

On Inventory (Yes/No)*

Yes

Canada

Non-Domestic Substances List (NDSL)

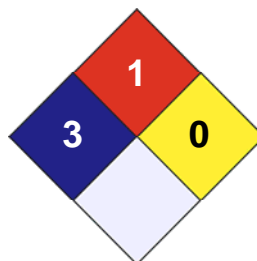
No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	* 3
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X



Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

Issue date

30-April-2014

Effective date

01-June-2014

Expiry Date

01-June-2017

Prepared by

Nu-Calgon Technical Service Phone: (314) 469-7000

Other information

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.

DIAMOND PRO CALCINED CLAY

MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTITY

Name	TXI OPERATIONS, L.P.	Address	1341 W. MOCKINGBIRD LANE, DALLAS, TEXAS 75247
Emergency Telephone Number	(972) 647-6700	Person Responsible for Preparation	NANCY GARNETT
Common Name (used on label)	DIAMOND PRO CALCINED CLAY	Date	SEPTEMBER 1998
Chemical Name	MONTMORILLONITE	Chemical Family	CALCINED CLAY
Trade Name & Synonyms	CALCINED CLAY, INFIELD CONDITIONER	Formula	DOES NOT APPLY

SECTION 2 - HAZARDOUS INGREDIENTS

Hazardous Component	CAS #	% Typical	TLV (Units)	PEL (Units)
MONTMORILLONITE	1302-78-9	90-93 bulk	3 mg/m ³ *	5 mg/m ³ *
QUARTZ (crystalline silica)	14808-60-7	7-10 bulk	10 mg/m ³ (inhalable dust)	
3-5% RESPIRABLE			0.1 mg/m ³ *	10 mg/m ³ / (%SiO ₂ +2)

THIS PRODUCT IS A NON-COMBUSTIBLE, CHEMICALLY INERT MINERAL. THIS MINERAL SAMPLE CONTAINS A SMALL AMOUNT OF NATURALLY OCCURRING CRYSTALLINE SILICA AS QUARTZ. SEE SECTION 5 FOR HEALTH HAZARDS ASSOCIATED WITH QUARTZ. EXPOSURE TO DUST FROM THIS PRODUCT UNDER CONDITIONS OF NORMAL USE DOES NOT CAUSE ADVERSE EFFECTS.

PEL: Permissible Exposure Limit established by the Occupational Safety and Health Administration (OSHA).
TLV: Threshold Limit Value established by the American Conference of Governmental Industrial Hygienists (ACGIH).

SECTION 3 - PHYSICAL DATA

Boiling Point		Specific Gravity (H ₂ O = 1)	
Vapor Pressure (mm = Hg)			
DOES NOT APPLY	2.2		DOES NOT APPLY
Percent Volatile by Volume	Vapor Density (Air = 1)		Evaporation Rate (n=Butyl Acetate)
0%			
Percent Soluble in Water	DOES NOT APPLY		DOES NOT APPLY
0%	Reactivity in Water		
	WILL NOT EVOLVE FLAMMABLE OR TOXIC GASES		
Appearance and Odor			
GRANULAR CLAY, BUFF TO GRAY COLOR, ODORLESS.			
Hazardous Material Information System Identifier (HMIS)			
HEALTH = 1*	FLAMMABILITY = 0	REACTIVITY = 0	PERSONAL PROTECTION = X

SECTION 4 - FIRE AND EXPLOSION DATA

Flash Point	Flammable Limits in Air (% by Volume)
WILL NOT IGNITE	Lower: DOES NOT APPLY Upper: DOES NOT APPLY
Extinguishing Media	Auto Ignition Temperature
DOES NOT APPLY	DOES NOT APPLY
Unusual Fire and Explosion Hazards	
NONE	
Special Fire Fighting Procedures	
NONE	

TXI051

SECTION 5 - HEALTH INFORMATION

Signs and Symptoms of Exposure - (1) Acute Overexposure - INHALATION: CONGESTION OF NASAL PASSAGES AND RESPIRATORY SYSTEMS. EYES: EXCESSIVE DUST MAY CAUSE ABRASION OF CORNEA. SKIN: NONE. INGESTION: NONE UNLESS MATERIAL HAS BEEN EXPOSED TO OTHER CHEMICALS.

Signs and Symptoms of Exposure - (2) Chronic Overexposure - INHALATION: DUST MAY CAUSE COUGHING AND SHORTNESS OF BREATH. EXCESSIVE EXPOSURE OF QUARTZ OVER AN EXTENDED PERIOD OF TIME MAY RESULT IN THE DEVELOPMENT OF PULMONARY DISEASES INCLUDING PNEUMOCONIOSIS, SILICOSIS (A PROGRESSIVE, DISABLING AND FATAL DISEASE OF THE LUNG), OR LUNG CANCER. DUST CAN CAUSE INFLAMMATION OF THE LINING TISSUE OF THE INTERIOR OF THE NOSE. EYES: INFLAMMATION OF THE CORNEA. SKIN: MINOR ABRASION. INGESTION: BLOCKAGE OF PASSAGEWAYS.

EXPOSURE TO DUST FROM THIS PRODUCT UNDER CONDITIONS OF NORMAL USE DOES NOT CAUSE ADVERSE EFFECTS.

Medical Conditions Generally Aggravated by Exposure
RESPIRATORY DISORDERS OR DISEASES, SUCH AS ASTHMA MAY BE AGGRAVATED BY EXPOSURE TO DUST OF THIS MATERIAL.

Chemical/Component Listed as Carcinogen		<u>NTP</u>	<u>IARC</u>	<u>OSHA</u>
QUARTZ ..	YES	YES-2A	NO	
Other Exposure Limits				
NONE				
Emergency & First Aide Procedures for Indicated Routes of Entry				
<u>INHALATION</u> : REMOVE FROM EXPOSURE. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CONSULT A PHYSICIAN. <u>EYES</u> : WASH EYES WITH COOL RUNNING WATER, LIFTING UPPER AND LOWER LIDS. DO NOT RUB EYES! IF IRRITATION PERSISTS, OBTAIN MEDICAL ASSISTANCE. <u>SKIN</u> : NONE NEEDED FOR NORMAL USE. <u>INGESTION</u> : IF MATERIAL HAS BEEN EXPOSED TO OTHER CHEMICALS, OBTAIN MEDICAL ATTENTION FOR THE CHEMICAL CONTAMINANT. IF LARGE AMOUNT OF UNCONTAMINATED MATERIAL IS SWALLOWED, GET IMMEDIATE MEDICAL ATTENTION.				

SECTION 6 - REACTIVITY DATA

Stability	Conditions to Avoid
STABLE ..	DOES NOT APPLY
Incompatibility (Materials to Avoid)	
HYDROFLUORIC ACID, TURPENTINE, VEGETABLE OIL, OR OTHER UNSATURATED ORGANIC COMPOUNDS MAY GENERATE HEAT.	
Hazardous Decomposition or Combustion Products	
NONE	
Hazardous Polymerization	
WILL NOT OCCUR	

SECTION 7 - SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Leaked or Spilled
CLEAN-UP OF SPILLS MAY REQUIRE PERSONAL PROTECTIVE EQUIPMENT TO PREVENT DUST EXPOSURES. SEE SECTION 8. USE CLEAN-UP PROCEDURES SUITABLE FOR ANY INERT DRY PRODUCT, SUCH AS SWEEPING OR VACUUMING. IF SPILLED ON WET, OILY, OR ICY SURFACE, PERSONAL SAFETY MAY BE ENHANCED BY LEAVING THE SPILLED MATERIAL TO ABSORB LIQUIDS AND TO IMPROVE TRACTION. AVOID CREATING DUST.

Waste Disposal Method
IF THIS MATERIAL, AS PROVIDED BY THE MANUFACTURER, BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY THE ENVIRONMENTAL PROTECTION AGENCY UNDER THE AUTHORITY OF THE RESOURCE CONSERVATION AND RECOVERY ACT (40 CFR 261). DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION 8 - PERSONAL PROTECTION INFORMATION

Respiratory Protection	
NIOSH/MSHA APPROVED FOR PROTECTION AGAINST SILICA AND NUISANCE DUSTS, WHEN NECESSARY.	
Ventilation	
GENERAL OR LOCAL EXHAUST TO MAINTAIN EXPOSURE BELOW TLV/PEL.	
Protective Gloves	Eye Protection
TO PROTECT FROM ABRASION	SAFETY GLASSES, GOGGLES, OR FACE SHIELD,
.....	WHEN NECESSARY TO PREVENT EYE CONTACT.
Other Protective Clothing or Equipment	
NONE	

SECTION 9 - SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing
SHOULD BE STORED IN A MANNER TO PREVENT ACCUMULATIONS OF AIRBORNE DUST. DO NOT USE A BLOWER TO REMOVE DUST FROM CLOTHING OR ANY OTHER SURFACE.

Other Precautions
CA PROPOSITION 65: THIS PRODUCT CONTAINS RESPIRABLE CRYSTALLINE SILICA (QUARTZ) WHICH IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

TXI051

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 193.00

Revision Date: February 6, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Acetate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Calcium acetate	62-54-4	$\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot \text{H}_2\text{O}$	176.19	
Synonym: Calcium diacetate				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid but when heated above 160 °C (320F) in enclosed spaces may generate highly flammable/explosive acetone.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Slight acetic acid odor.

Melting point: >160 °C

Soluble: Water. Slightly in alcohol.

Specific gravity: 1.5

Decomposes on heating.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers and open flame.

Shelf life: Fair to poor, hygroscopic. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

ORL-RAT LD₅₀: N.A.

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-540-9).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: February 6, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 194.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Carbide

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Substances and mixtures which, in contact with water, emit flammable gases (Category 2). In contact with water releases flammable gas (H261). Handle under inert gas. Protect from moisture (P231+P232).

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314). Do not breathe dust or fumes (P260).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Calcium carbide	75-20-7	CaC ₂	64.10	
Synonym: Calcium acetylide				

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338).

If on skin (or hair): Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353).

If swallowed: Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Flammable solid. Exposure to water or moisture evolves flammable acetylene. 500 g of calcium carbide will yield approximately 150L of flammable acetylene.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA Code

H-3

F-3

R-2

No Water

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and water. Do NOT use water, sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #5. Store with sulfides, phosphides, carbides and nitrides. Store in a cool, dry place. Store in a Flinn Chem-Saf™ bag and then inside a Flinn Saf-Stor™ can. Use only in a hood or in a well ventilated area.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or in a well ventilated area.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Rocklike, grayish-black. Odor of acetylene always present.

Garlic like odor.

Specific gravity: 2.22

Soluble: Reacts and decomposes with water.

Forms calcium hydroxide and acetylene with much heat.

SECTION 10 — STABILITY AND REACTIVITY

Decomposes in water to form acetylene and calcium hydroxide. Store in a metal can or a flammables cabinet. Avoid contact with water, acids, halogens, silver nitrate, copper compounds, and heavy metals.

Shelf life: Good, if stored under dry conditions.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Corrosive.

ORL-RAT LD₅₀: N.A.

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #25 is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Calcium Carbide. Hazard class: 4.3, Dangerous when wet. UN number: UN1402.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-848-3), RCRA code D001, D003.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 195.00

Revision Date: March 13, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Carbonate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Calcium carbonate	471-34-1	CaCO ₃	100.09	
Synonyms: Chalk; Dolomite; Limestone				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates.
Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.
Exposure Guidelines: PEL 15 mg/m³ (as total dust) (OSHA)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Odorless.	Melting point: 825 °C (decomposes)
Soluble: Acids but evolves carbon dioxide. Slightly in water.	Specific gravity: 2.7

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, acids, magnesium, and aluminum.
Shelf life: Excellent, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.	ORL-RAT LD ₅₀ : 6450 mg/kg
Chronic effects: N.A.	IHL-RAT LC ₅₀ : N.A.
Target organs: N.A.	SKN-RBT LD ₅₀ : N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (207-439-9).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 13, 2014

Material Safety Data Sheet

Section 1: Company and Product Identification



(866) 260-0501

Manufactured by:
Columbus Chemical Industries, Inc.
N4335 Tremkin Rd.
Columbus, WI 53925
TEL: (920) 623-2140

24 HOUR EMERGENCY ASSISTANCE CHEMTREC 800-424-9300 HAZARD RATING		
4- EXTREME	HEALTH	1
3- SEVERE	FLAMMABILITY	0
2- MODERATE	REACTIVITY	0
1- SLIGHT		
0- MINIMAL		

Product Name Calcium Chloride Anhydrous

Product No. 9407406

CAS 10043-52-4

Material Uses Dehydrated agent.

Synonyms Not available.

Formula CaCl₂

Section 2: Hazardous Ingredients

Product Name

1) Calcium Chloride Anhydrous

CAS

10043-52-4

Conc (%)

90.5-97

PIN

N/A

For Exposure Limits (TLV, PEL), LD50 and LC50 see section 5 of this document.

* Chemical subject to the reporting of SARA Title III.

Section 3: Physical Data

Appearance	Solid. (Powder.)	Odor Threshold	Not available.
Color	White to off-white.	Vapor Pressure	Not available.
Odor	Odorless.	Evaporation Rate (Reference solvent)	Not available.
Specific Gravity (Water = 1)	2.15 (Water = 1)	Vapor Density (Air = 1)	Not available.
Melting Point	Not available.	Percent Volatile by Volume	Not available.
Boiling Point	Not available.	pH (1% water soln)	Not available.
Water/Oil Dist. Coeff.	Not available.	Solubility	Easily soluble in cold water; hot water.

Section 4: Fire and Explosion Hazard Data

Flash Point (Methods)	Not applicable.	Autoignition Temp.	Not applicable.
Flammable Limits in Air by Volume	Not applicable.		
Flammability	Not applicable.		

Explosion Hazard Not available.

Haz. Comb. Prod. Not applicable.

Means of Extinction Use extinguishing media suitable for surrounding materials.

Special Fire Fighting Procedures

Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Unusual Fire and Explosion Hazards

Not available.

Section 5: Health Hazard Data

Exposure Limits (P.E.L., TLV, etc.) Not available.

Acute Effects Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant). Slightly hazardous in case of ingestion.

Routes of Entry Absorbed through skin. Eye contact. **LD50/LC50** LD50: Not available. LC50: Not available.

Effects of Overexposure

Repeated or prolonged exposure is not known to aggravate medical condition.

Emergency and First Aid Procedures

SKIN: Wash contaminated skin with soap and water. **EYES:** Flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. **INHALATION:** Move exposed person to fresh air. If irritation persists, get medical attention. **INGESTION:** Do not induce vomiting. If affected person is conscious, give plenty of water to drink. Seek medical attention.

Section 6: Reactivity Data

Stability The product is stable. **Instability Temp.** Not available.

Incompatibility Not available.

Degradation Prod. These products are halogenated compounds. Some metallic oxides. **Hazardous polymerization?** Will not occur.

Materials to Avoid Not available.

Section 7: Spill or Leak Procedures

Spill Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Disposal Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 8: Protection Equipment Information

Equipment Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Engineering Controls Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Section 9: Other Information

Special Precautions Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 4).

Read label on container before using. Do not wear contact lenses when working with chemicals.

Verified by S. Quandt

Effective Date Printed 9/26/2002

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to the other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees.

Fiche signalétique

Section 1: Identification de la compagnie et du produit

ScholarTM
Chemistry

(866) 260-0501

Manufactured by:
Columbus Chemical Industries, Inc.
N4335 Tremkin Rd.
Columbus, WI 53925
TEL: (920) 623-2140

ASSISTANCE D'URGENCE 24 HEURES CHEMTREC 800-424-9300 NIVEAU DE DANGER		
4- EXTRÊME	SANTÉ	1
3- SEVÈRE	INFLAMMABILITÉ	0
2- MODÉRÉ		
1- FAIBLE	RÉACTIVITÉ	0
0- MINIMAL		

Nom du produit Chlorure de calcium anhydre

No. de produit 9407406

CAS 10043-52-4

Utilisations Agent de déshydratation.

Synonymes Non disponible.

Formule CaCl₂

Section 2: Ingrédients dangereux

Nom du produit

1) Chlorure de calcium anhydre

CAS
10043-52-4

Conc (%)
90.5-97

NIP
S/O

Pour les limites d'exposition (TLV, PEL), DL50 et CL50 voir la section 5 de ce document.

* Chemical subject to the reporting of SARA Title III.

Section 3: Données physiques

Apparence	Solide. (Poudre.)	Seuil de l'odeur	Non disponible.
Couleur	Blanc à blanc mât.	Tension de vapeur	Non disponible.
Odeur	Inodore.	Taux d'évaporation (Solvent de référence)	Non disponible.
Gravité spécifique (Eau = 1)	2.15 (Eau = 1)	Densité de vapeur (Air = 1)	Non disponible.
Point de fusion	Non disponible.	Pourcentage volatil en volume	Non disponible.
Point d'ébullition	Non disponible.	pH (1% soln/eau)	Non disponible.
Coeff. dist. eau/huile	Non disponible.	Solubilité	Facilement soluble dans l'eau froide, l'eau chaude.

Section 4: Données sur les dangers de feu et d'explosion

Point d'éclair (Méthodes)	Sans objet.	Temp. d'autoinflammation	Sans objet.
Limites d'inflammabilité dans l'air par volume	Sans objet.		
Inflammabilité	Sans objet.		

Risques d'explosion Non disponible.

Prod. comb. dang. Sans objet.

Moyens d'extinction Utiliser des agents extincteurs appropriés pour les matières environnantes.

Procédures spéciales d'extinction d'incendie

Les pompiers doivent porter un appareil respiratoire autonome à pression positive et une tenue de feu complète.

Dangers de feu et d'explosion inhabituels

Non disponible.

Section 5: Données sur les risques pour la santé

Limites d'exposition (P.E.L., TLV, etc.) Non disponible.

Effets aigus Dangereux en cas de contact cutané (irritant), contact avec les yeux (irritant), d'inhalation (irritant pour les poumons). Très légèrement dangereux en cas d'ingestion.

Voies d'entrées Absorbé par la peau. Contact avec les yeux. **DL50/CL50** DL50: Non disponible. CL50: Non disponible.

Effets d'une surexposition

Une exposition répétée ou prolongée ne devrait pas aggraver l'état de santé.

Mesures d'urgence et de premiers soins

PEAU: Laver la peau contaminée à l'eau et au savon. **YEUX:** Rincer immédiatement à l'eau courante pendant au moins 15 minutes, en soulevant occasionnellement les paupières supérieure et inférieure. Consulter un médecin. **INHALATION:** Transporter la personne incommodée à l'air frais. Si l'irritation persiste, consulter un médecin. **INGESTION:** NE PAS faire vomir. Si la personne incommodée est consciente, lui faire boire beaucoup d'eau. Consulter un médecin.

Section 6: Données sur la réactivité

Stabilité Le produit est stable. **Temp. d'instabilité** Non disponible.

Incompatibilité Non disponible.

Prod. dégradation Ces produits sont des composés halogénés. Quelques oxydes métalliques. **Polymérisation dangereuse?** Ne se produira pas.

Substances à éviter Non disponible.

Section 7: Procédures en cas de déversement

Déversement Utiliser les instruments nécessaires pour mettre le solide répandu dans un contenant de récupération approprié. Terminer le nettoyage en répandant de l'eau sur la surface contaminée et éliminer selon les exigences locales et régionales.

Élimination Les déchets doivent être éliminés conformément aux règlements fédéraux, provinciaux et municipaux sur la protection de l'environnement.

Section 8: Information sur l'équipement de protection

Équipement Lunettes anti-éclaboussures. Blouse de laboratoire (sarrau). Respirateur anti-poussières. Utiliser uniquement un respirateur approuvé ou certifié ou son équivalent. Gants.

Contrôles d'ingénierie Utiliser des enceintes fermées, des systèmes de ventilation par aspiration à la source, ou d'autres systèmes de contrôle techniques pour garder la quantité de particules aéroportées en-dessous du niveau recommandé. Si l'utilisation du produit génère des poussières, de la fumée ou du brouillard, utiliser une ventilation adéquate pour garder la quantité de contaminants aéroportés sous la limite d'exposition permise.

Section 9: Autre information

Précautions spéciales Contacter immédiatement le personnel d'urgence. Garder le personnel non requis éloigné. Utiliser un équipement de protection adéquat (Section 8). Suivre toutes les procédures relatives à la lutte contre les incendies (Section 4).

Lire l'étiquette sur le contenant avant l'usage. Ne pas porter de verres de contact lorsque vous utilisez des produits chimiques.

Vérfié par S. Quandt

Date effective Imprimé le 9/26/2002

Pour usage de laboratoire seulement. Pas pour usage de drogue, aliment ou pour la maison. Gardez hors de la portée des enfants..

L'information contenue dans ce document est fournie sans garantie d'aucune sorte. Les employeurs doivent utiliser cette information seulement en supplément à d'autres informations qu'ils doivent obtenir. Ils doivent faire leur propre détermination et vérifier si l'information est pertinente et complète en se basant sur toutes les autres sources disponibles et s'assurer de l'utilisation adéquate de ce produit et de la santé et de la sécurité de leurs employés.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 197.00

Revision Date: February 6, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Chloride Solution

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Calcium chloride dihydrate	10035-04-8	$\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$	147.02	<15%
Water	7732-18-5	H_2O	18.00	85-99%

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear, colorless liquid. Odorless.

pH: ~5

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

ORL-RAT LD₅₀: N.A.

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: February 6, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 196.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Chloride

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Calcium chloride, anhydrous	10043-52-4	CaCl ₂	110.98	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Rinse cautiously with water for several minutes (P351).

If swallowed: Rinse mouth. Contact a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool, dry place. Hygroscopic. Store in Flinn Chem-Saf™ bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder, crystals, or flakes. Odorless.

Boiling point: 1670 °C

Soluble: Water and alcohol. Liberates heat in water.

Melting point: 772 °C

Specific gravity: 2.15

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong acids.

Shelf life: Fair to poor, hygroscopic. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.

ORL-RAT LD₅₀: 1000 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (233-140-8).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 199.00

Revision Date: March 24, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Hydroxide

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Calcium hydroxide	1305-62-0	Ca(OH) ₂	74.10	
Synonyms: Slaked lime; Calcium hydrate				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates.

Store in a cool, dry place. Store in a Flinn Chem-Saf™ bag.

Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: PEL 15 mg/m³ (as total dust) (OSHA); TLV 5 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Odorless.

Soluble: Acids and some organic liquids. Slightly in water.

Melting point: Loses water at 580 °C

pH of water solution (25%) 12.4.

Specific gravity: 2.34

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong acids, maleic anhydride, and nitro compounds.

Shelf life: Fair to poor. Absorbs carbon dioxide from air. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Corrosive.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 7340 mg/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #10 is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (215-137-3), RCRA code D002.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 24, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 192.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Turnings

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Substances and mixtures which, in contact with water, emit flammable gases (Category 2). In contact with water releases flammable hydrogen gas (H261). Handle under inert gas. Protect from moisture (P231+P232).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Calcium (metal)	7440-70-2	Ca	40.08	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Brush off loose particles from skin (P335). Then wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell. Brush off loose particles from skin (P335).

SECTION 5 — FIRE FIGHTING MEASURES

Flammable solid.

Violent reaction with water. Produces hydrogen.

In case of fire: Use Class D, Met-L-X, or dry sand as a fire extinguisher. Avoid water contact, violent reaction with water.

NFPA CODE

H-3

F-1

R-2

No Water

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and water. Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.

Handle under inert gas. Protect from moisture (P231+P232). Keep container tightly closed (P233). Store in a Flinn Chem-Saf™ bag and then inside a Flinn Saf-Stor™ can.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Silver-white, soft metal. Odorless.

Soluble: Acid. Decomposes in water to liberated hydrogen.

Boiling point: 1440 °C

Melting point: 842 °C

Specific gravity: 1.55

SECTION 10 — STABILITY AND REACTIVITY

Highly reactive with water and oxidizing agents. Contact with water will evolve extremely flammable hydrogen gas.

Shelf life: Good, but only if stored under airtight conditions.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Skin, eye, and mucous membrane irritant due to the presence of water.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: N.A.

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #3 is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Calcium. Hazard class: 4.3, Dangerous when wet. UN number: UN1401.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-179-5), RCRA code D001, D003.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

MSDS Number: **C0451** * * * * * *Effective Date: 01/16/06* * * * * * *Supersedes: 11/10/05*

MSDS <i>Material Safety Data Sheet</i>		24 Hour Emergency Telephone: 908-859-2151 CHEMTREC: 1-800-424-9300
From: Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865		National Response in Canada CANUTEC: 613-696-6666
Mallinckrodt CHEMICALS		Outside U.S. and Canada Chemtrec: 703-527-3887
J.T. Baker		NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.
All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.		

CALCIUM NITRATE

1. Product Identification

Synonyms: Nitric acid, calcium (II) salt; calcium II nitrate, tetrahydrate (1:2:4); Calcium Nitrate, 4-Hydrate; Calcium Dinitrate
CAS No.: 10124-37-5 (Anhydrous) 13477-34-4 (Tetrahydrate)
Molecular Weight: 236.15
Chemical Formula: Ca(NO₃)₂ 4H₂O
Product Codes:
J.T. Baker: 1395
Mallinckrodt: 4236

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Calcium Nitrate	10124-37-5	98 - 100%	Yes

3. Hazards Identification

Emergency Overview

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. HARMFUL IF SWALLOWED OR INHALED.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate
Flammability Rating: 0 - None
Reactivity Rating: 3 - Severe (Oxidizer)
Contact Rating: 3 - Severe
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: Yellow (Reactive)

Potential Health Effects

Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

Ingestion:

Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain.

Eye Contact:

Causes irritation, redness, and pain.

Chronic Exposure:

No information found.

Aggravation of Pre-existing Conditions:

No information found.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms occur.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Explosion:

Can cause explosions in contact with combustible dusts or vapors; occasionally explosive by shock or friction. Sensitive to mechanical impact.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Water spray may be used to keep fire exposed containers cool.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Small amounts of residue may be flushed to sewer with plenty of water.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage and moisture. Isolate from any source of heat or ignition. Avoid storage on wood floors. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White crystals.

Odor:

Odorless.

Solubility:

121g in 100g of water.

Density:

2.36

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

No information found.

Melting Point:

45C (113F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity**Stability:**

Unstable. Exposure to heat may result in build-up of dangerous pressures. A strong oxidizer, reacts violently upon contact with many organic substances, particularly textile and paper.

Hazardous Decomposition Products:

Oxides of nitrogen.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Combustible materials, organic materials, powdered metals, ammonia, hydrazine, reducing agents.

Conditions to Avoid:

Heat, flame, ignition sources, shock and incompatibles.

11. Toxicological Information

Oral rat LD50: 3900 mg/kg. Irritation eye rabbit 500mg/24H severe.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Calcium Nitrate (10124-37-5)	No	No	None

12. Ecological Information**Environmental Fate:**

No information found.

Environmental Toxicity:

The LC50/96-hour values for fish are over 100 mg/l.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information**Domestic (Land, D.O.T.)**

Proper Shipping Name: CALCIUM NITRATE

Hazard Class: 5.1

UN/NA: UN1454

Packing Group: III

Information reported for product/size: 100KG

International (Water, I.M.O.)

Proper Shipping Name: CALCIUM NITRATE

Hazard Class: 5.1

UN/NA: UN1454

Packing Group: III

Information reported for product/size: 100KG

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Calcium Nitrate (10124-37-5)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	DSL	--Canada-- NDSL	Phil.
Calcium Nitrate (10124-37-5)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302- RQ	TPQ	-SARA 313- List	Chemical Catg.

-----	---	----	----	-----
Calcium Nitrate (10124-37-5)	No	No	No	Nitrate Compd
-----\Federal, State & International Regulations - Part 2\-----				
Ingredient	CERCLA	-RCRA-	-TSCA-	
		261.33	8 (d)	
-----	-----	-----	-----	-----
Calcium Nitrate (10124-37-5)	No	No	No	

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
Reactivity: Yes (Pure / Solid)

Australian Hazchem Code: 2[T]

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 1 Flammability: 0 Reactivity: 3 Other: **Oxidizer**

Label Hazard Warning:

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. HARMFUL IF SWALLOWED OR INHALED.

Label Precautions:

Keep from contact with clothing and other combustible materials.

Do not store near combustible materials.

Avoid contact with eyes, skin and clothing.

Store in a tightly closed container.

Wash thoroughly after handling.

Avoid breathing dust.

Use only with adequate ventilation.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 3.

Disclaimer:

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Prepared by: Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 203.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Oxide

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin corrosion or irritation (Category 2). Causes skin irritation (H315).

Hazard class: Serious eye damage or irritation (Category 1). Causes serious eye damage (H318).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Calcium oxide	1305-78-8	CaO	56.08	
Synonyms: Lime; Quicklime				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

Lime reacts with water releasing heat and forming an alkaline solution. If combustible materials are present, fire may result.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA Code

H-3

F-0

R-1

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates. Store in a cool, dry place. Moisture sensitive material, store in a Flinn Chem-SafTM bag. Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: PEL 5 mg/m³ (OSHA) TLV 2 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White to gray powder, lumps, pebbles, or granules. Odorless.

Boiling point: 2850 °C

Soluble: Water, reacts to form calcium hydroxide. Acids.

Melting point: 2580 °C

Specific gravity: 3.4

SECTION 10 — STABILITY AND REACTIVITY

Dangerous when in contact with organic materials. Avoid contact with water, acids, and humid air. Avoid storing this substance in glass bottles unless very tightly sealed. Substance takes on water easily, which generates heat and causes bottles to break, spilling contents. Shelf life: Fair to poor, keep dry. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Corrosive.

ORL-RAT LD₅₀: N.A.

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #10 is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Calcium Oxide. Hazard class: 8, Corrosive. UN number: UN1910.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (215-138-9).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 204.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Phosphate, Monobasic

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Hazard class: Specific target organ toxicity, single exposure; Respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Calcium phosphate, monobasic	10031-30-8	$\text{Ca}(\text{H}_2\text{PO}_4)_2 \cdot \text{H}_2\text{O}$	252.08	

SECTION 4 — FIRST AID MEASURES

If exposed or concerned: Get medical advice or attention (P308+P313).

If inhaled: Remove victim to fresh air in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Rinse cautiously with water for several minutes (P351).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Deliquescent. Store in a cool, dry place within a Flinn Chem-Saf™ bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White, crystalline powder. Odorless.

Soluble: Water and acid

Aqueous solutions are acidic.

Melting point: Loses water at 100 °C

Specific gravity: 2.2

SECTION 10 — STABILITY AND REACTIVITY

Prudent laboratory practices should be observed.

Avoid contact with strong oxidizers.

Shelf life: Fair to poor, deliquescent. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant, gastrointestinal disturbances, nausea, headache, and vomiting.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 17,500 mg/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-837-1).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 208.00

Revision Date: March 26, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Sulfate, Hemihydrate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Calcium sulfate hemihydrate	10034-76-1	$\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$	145.15	
Synonym: Plaster of Paris				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool, dry place. Hygroscopic; store in Flinn Chem-Saf™ bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.
Exposure guidelines: PEL 15 mg/m³ (as total dust) (OSHA)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Hydrated form. Odorless.
Soluble: Slightly in water.

Melting point: 1450 °C
Specific gravity: 2.964

SECTION 10 — STABILITY AND REACTIVITY

Contact with diazomethane vapor results in an exothermic reaction and may lead to detonation. Reacts violently with aluminum when heated.

Shelf life: Poor, unless kept dry. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritating dust.

ORL-RAT LD₅₀: N.A.

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-900-3).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 26, 2014

SAFETY DATA SHEET

1. Product and Company Identification

Product identifier Evap Foam No Rinse-Aerosol (4171-75)

Other means of identification Not available

Recommended use Cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Nu-Calgon
Address 2008 Altom Court
 St. Louis, MO 63146
 United States
Telephone 314-469-7000 / 800-554-5499
E-mail info@nucalgon.com

Emergency phone number 1-800-424-9300 (CHEMTREC)

2. Hazards Identification

Physical hazards Gases under pressure Liquefied gas

Health hazards Serious eye damage/eye irritation Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Contains gas under pressure; may explode if heated. Causes serious eye damage.

Precautionary statement

Prevention Wear eye/face protection.

Response If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.

Storage Protect from sunlight. Store in a well-ventilated place.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNO) None known.

Supplemental information Not applicable.

3. Composition/Information on Ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Butane		106-97-8	2.95
Diethylene glycol monoethyl ether		111-90-0	2.84
Propane		74-98-6	2.05
Ethanol, 2-butoxy-		111-76-2	2
Tetrasodium ethylenediamine tetraacetate		64-02-8	1.64
Sodium metasilicate		6834-92-0	0.14

4. First Aid Measures

Inhalation If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

Skin contact	Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.
Eye contact	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
Ingestion	In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Suitable extinguishing media	Alcohol foam. Carbon dioxide. Dry chemical. Foam.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Contents under pressure.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep out of low areas. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling	Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment.
Conditions for safe storage, including any incompatibilities	Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure Controls/Personal Protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethanol, 2-butoxy- (CAS 111-76-2)	PEL	240 mg/m3
		50 ppm
Propane (CAS 74-98-6)	PEL	1800 mg/m3
		1000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Butane (CAS 106-97-8)	STEL	1000 ppm
Ethanol, 2-butoxy- (CAS 111-76-2)	TWA	20 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Butane (CAS 106-97-8)	TWA	1900 mg/m3 800 ppm
Ethanol, 2-butoxy- (CAS 111-76-2)	TWA	24 mg/m3 5 ppm
Propane (CAS 74-98-6)	TWA	1800 mg/m3 1000 ppm

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Diethylene glycol monoethyl ether (CAS 111-90-0)	TWA	140 mg/m3 25 ppm

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Ethanol, 2-butoxy- (CAS 111-76-2)	200 mg/g	Butoxyacetic acid (BAA), with hydrolysis	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines**US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants**

2-BUTOXYETHANOL (EGBE) (CAS 111-76-2) Can be absorbed through the skin.

US. Minnesota Hazardous Substances List (Minn. Rules 5206.0400).

Ethanol, 2-butoxy- (CAS 111-76-2) Skin designation applies.

US. NIOSH: Pocket Guide to Chemical Hazards

Ethanol, 2-butoxy- (CAS 111-76-2) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Ethanol, 2-butoxy- (CAS 111-76-2) Can be absorbed through the skin.

US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A

Ethanol, 2-butoxy- (CAS 111-76-2) Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical splash goggles.

Skin protection

Hand protection Wear protective gloves.

Other Not available.

Respiratory protection Wear positive pressure self-contained breathing apparatus (SCBA).

Thermal hazards Not applicable.

General hygiene considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and Chemical Properties

Appearance	Compressed liquefied gas
Physical state	Gas.
Form	Liquefied gas.
Color	Clear
Odor	Lemon lime

Odor threshold	Not available.
pH	12.3
Melting point/freezing point	Not available.
Initial boiling point and boiling range	32 - 401 °F (0 - 205 °C)
Pour point	Not available.
Specific gravity	Not available.
Partition coefficient (n-octanol/water)	Not available
Flash point	Not available.
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	65 psi @ 70°F
Vapor density	Not available
Relative density	Not available.
Solubility(ies)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Flash point class	Not Flammable as per testing under UN Manual of Tests and Criteria Part 3, Section 31.5

10. Stability and Reactivity

Reactivity	Reacts vigorously with acids.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Reacts violently with strong acids. This product may react with oxidizing agents. Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Not corrosive to SAE 1020 Steel or non-clad Aluminum based on test data (UN Manual of Tests and Criteria, Part III, Section 37.1 -Corrosion to metals).
	Oxidizing agents. Acids.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	Not corrosive to skin based on in-vitro test data (OECD Guideline 435 - Corrositex®).
Eye contact	Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Butane (CAS 106-97-8)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Mouse	680 mg/l, 2 Hours
	Rat	276000 ppm, 4 Hours
		658 mg/l/4h
<i>Oral</i>		
LD50	Not available	
Diethylene glycol monoethyl ether (CAS 111-90-0)		
Acute		
<i>Dermal</i>		
LD50	Guinea pig	5900 mg/kg
	Mouse	6000 mg/kg
	Rabbit	6000 mg/kg
	Rat	6000 mg/kg
<i>Inhalation</i>		
LC50		
	Rat	5240 mg/l/4h
<i>Oral</i>		
LD50	Guinea pig	3000 mg/kg
	Rabbit	3620 mg/kg
	Rat	5500 mg/kg
		1920 mg/kg
Ethanol, 2-butoxy- (CAS 111-76-2)		
Acute		
<i>Dermal</i>		
LD50	Guinea pig	207 mg/kg
	Rabbit	400 mg/kg
		220 mg/kg
		99 mg/kg
	Rat	99 mg/kg
<i>Inhalation</i>		
LC50	Mouse	700 ppm, 7 Hours
	Rat	450 ppm, 4 Hours
		2.2 mg/l, 4 Hours
<i>Oral</i>		
LD50	Guinea pig	1200 mg/kg
	Mouse	1200 mg/kg
	Rabbit	320 mg/kg
	Rat	470 mg/kg
Propane (CAS 74-98-6)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Rat	> 1442.8 mg/l, 15 Minutes
<i>Oral</i>		
LD50	Not available	

Components	Species	Test Results
Sodium metasilicate (CAS 6834-92-0)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Mouse	2400 mg/kg
	Rat	1153 mg/kg
Tetrasodium ethylenediamine tetraacetate (CAS 64-02-8)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	1658 mg/kg
Skin corrosion/irritation	Not corrosive to skin based on in-vitro test data (OECD Guideline 435 - Corrositex®).	
Exposure minutes	Not available.	
Erythema value	Not available.	
Oedema value	Not available.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Corneal opacity value	Not available.	
Iris lesion value	Not available.	
Conjunctival reddening value	Not available.	
Conjunctival oedema value	Not available.	
Recover days	Not available.	
Respiratory or skin sensitization		
Respiratory sensitization	Not available.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, NTP, or OSHA.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Ethanol, 2-butoxy- (CAS 111-76-2)	3 Not classifiable as to carcinogenicity to humans.	
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not likely, due to the form of the product.	
Chronic effects	Prolonged inhalation may be harmful.	
Further information	Not available.	

12. Ecological Information

Ecotoxicity	See below		
Components	Species		Test Results
Diethylene glycol monoethyl ether (CAS 111-90-0)			
Crustacea	EC50	Daphnia	4305 mg/L, 48 Hours

Components		Species	Test Results
Aquatic			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	> 10000 mg/l, 96 hours
Ethanol, 2-butoxy- (CAS 111-76-2)			
Crustacea	EC50	Daphnia	1819 mg/L, 48 Hours
Aquatic			
Fish	LC50	Inland silverside (<i>Menidia beryllina</i>)	1250 mg/l, 96 hours
Sodium metasilicate (CAS 6834-92-0)			
Crustacea	EC50	Water flea (<i>Ceriodaphnia dubia</i>)	0.28 - 0.57 mg/l, 48 hours
Fish	LC50	Western mosquitofish (<i>Gambusia affinis</i>)	1800 mg/l, 96 hours
Tetrasodium ethylenediamine tetraacetate (CAS 64-02-8)			
Algae	EC50	Algae	1.01 mg/L, 72 Hours
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	610 mg/l, 24 hours
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	472 - 500 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Butane	2.89
Diethylene glycol monoethyl ether	-0.54
Ethanol, 2-butoxy-	0.83
Propane	2.36

Mobility in soil No data available.

Mobility in general Not available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Disposal instructions	Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:

UN number	UN1950
Proper shipping name	Aerosols, non-flammable, (each not exceeding 1 L capacity)
Hazard class	Limited Quantity - US
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

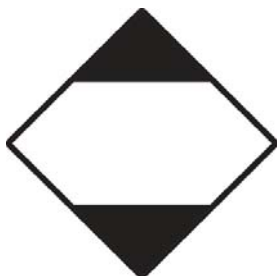
UN number	UN1950
Proper shipping name	AEROSOLS, non-flammable
Hazard class	Limited Quantity - Canada
Special provisions	80

IATA/ICAO (Air)**Basic shipping requirements:**

UN number UN1950
Proper shipping name Aerosols, non-flammable
Hazard class Limited Quantity - IATA
ERG code 2L

IMDG (Marine Transport)**Basic shipping requirements:**

UN number UN1950
Proper shipping name AEROSOLS
Hazard class Limited Quantity - US

DOT; IMDG; TDG**IATA**

15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Butane (CAS 106-97-8)	Listed.
Diethylene glycol monoethyl ether (CAS 111-90-0)	Listed.
Ethanol, 2-butoxy- (CAS 111-76-2)	Listed.
Propane (CAS 74-98-6)	Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard	- Yes
Delayed Hazard	- No
Fire Hazard	- No
Pressure Hazard	- Yes
Reactivity Hazard	- No

SARA 302 Extremely hazardous substance

No

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Diethylene glycol monoethyl ether	111-90-0	2.84
Ethanol, 2-butoxy-	111-76-2	2

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Diethylene glycol monoethyl ether (CAS 111-90-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

Clean Water Act (CWA)
Section 112(r) (40 CFR 68.130) Hazardous substance**Safe Drinking Water Act (SDWA)** Not regulated.**Food and Drug Administration (FDA)** Not regulated.**US state regulations** California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.**US - California Hazardous Substances (Director's): Listed substance**

Butane (CAS 106-97-8) Listed.

Ethanol, 2-butoxy- (CAS 111-76-2) Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

US - Illinois Chemical Safety Act: Listed substance

Butane (CAS 106-97-8) Listed.

Diethylene glycol monoethyl ether (CAS 111-90-0) Listed.

Ethanol, 2-butoxy- (CAS 111-76-2) Listed.

Propane (CAS 74-98-6) Listed.

US - Louisiana Spill Reporting List: Reportable quantity (total mass into atmosphere)

Diethylene glycol monoethyl ether (CAS 111-90-0) 100 LBS

Ethanol, 2-butoxy- (CAS 111-76-2) 100 LBS

US - Louisiana Spill Reporting: Listed substance

Butane (CAS 106-97-8) Listed.

Diethylene glycol monoethyl ether (CAS 111-90-0) Listed.

Ethanol, 2-butoxy- (CAS 111-76-2) Listed.

Propane (CAS 74-98-6) Listed.

US - Minnesota Haz Subs: Listed substance

Butane (CAS 106-97-8) Listed.

Diethylene glycol monoethyl ether (CAS 111-90-0) Listed.

Ethanol, 2-butoxy- (CAS 111-76-2) Listed.

Propane (CAS 74-98-6) Listed.

US - New Jersey RTK - Substances: Listed substance

Butane (CAS 106-97-8) Listed.

Diethylene glycol monoethyl ether (CAS 111-90-0) Listed.

Ethanol, 2-butoxy- (CAS 111-76-2) Listed.

Propane (CAS 74-98-6) Listed.

US. Massachusetts RTK - Substance List

Butane (CAS 106-97-8) Listed.

Ethanol, 2-butoxy- (CAS 111-76-2) Listed.

Propane (CAS 74-98-6) Listed.

US. Pennsylvania RTK - Hazardous Substances

Butane (CAS 106-97-8) Listed.

Diethylene glycol monoethyl ether (CAS 111-90-0) Listed.

Ethanol, 2-butoxy- (CAS 111-76-2) Listed.

Propane (CAS 74-98-6) Listed.

US. Rhode Island RTK

Butane (CAS 106-97-8) Listed.

Diethylene glycol monoethyl ether (CAS 111-90-0) Listed.

Ethanol, 2-butoxy- (CAS 111-76-2) Listed.

Propane (CAS 74-98-6) Listed.

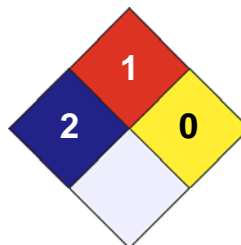
Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/ 2
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

Issue date

24-September-2014

Further information

For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

Other information

This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Prepared by

Nu-Calgon Technical Service Phone: (314) 469-7000



MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<u>Company Name</u> Nu-Calgon Wholesaler, Inc.	<u>Phone Number</u> (314) 469-7000 / (800) 554-5499		<u>CHEMTREC</u> (800) 424-9300	
<u>Street Address</u> 2008 Altom Court	<u>City</u> St. Louis	<u>State</u> MO	<u>Postal Code</u> 63146-4151	<u>Last Update</u> 10/25/12
<u>Product Name</u> Nu-blast, Aerosol	<u>Product Number</u> 4290-75	<u>Product Use</u> Condenser Coil Cleaner		<u>EPA Registration #</u> N/A

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	% By Wt.	CAS Number	TLV	PEL
Trichloroethylene	90 - 98	79-01-6	50 ppm	50 ppm
Carbon dioxide	< 5	124-38-9	5000 ppm	5000 ppm

SECTION 3 – HAZARD IDENTIFICATION

Emergency Overview: Warning. Ensure adequate ventilation. Avoid breathing vapors or mists. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 122°F (50°C). Do not pierce or burn, even after use. Do not spray on naked flame or any incandescent material KEEP OUT OF REACH OF CHILDREN

Potential Health Effects

Eyes: Irritating to eyes.

Skin: Irritating to skin. Prolonged skin contact may defat the skin and produce dermatitis.

Ingestion: Aspiration may cause pulmonary oedema and pneumonitis. nausea.

Inhalation: Inhalation of high vapour concentrations may cause nasal & respiratory irritation and symptoms like headache, dizziness, tiredness, nausea, vomiting and possible unconsciousness.

Chronic Exposure: Prolonged exposure may cause chronic effects such as. Liver disorders. Kidney disorders. Lung damage. cardiac irregularities. Repeated and prolonged exposure to solvents may cause brain and nervous system damage. May cause disorder and damage to the spleen. In chronic inhalation tests with rats and mice, Trichloroethylene caused an increased incidence of tumours of a type which is routinely observed in these species.

Carcinogenicity: CA Prop 65 carcinogen - Trichloroethylene

Medical Conditions Aggravated by Exposure: May aggravate existing eye, skin, or upper respiratory conditions

SECTION 4 – FIRST AID MEASURES

Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists, consult a specialist

Skin: Wash off with soap and water. Remove and wash contaminated clothing before re-use. If skin irritation persists, call a physician

Ingestion: DO NOT INDUCE VOMITING. Aspiration hazard. Clean mouth with water and afterwards drink plenty of water. Immediate medical attention is required

Inhalation: Move to fresh air. If not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth. Obtain medical attention

SECTION 5 – FIREFIGHTING MEASURES

Flash Point: No Data. °F

Autoignition Temp: No Data. °C/No Data. °F

Hazardous Products of Combustion: Carbon oxides, Hydrogen chloride (trace amounts), Phosgene (trace amounts) or Chlorine (trace amounts).

Flammable Limits in Air: No Data.

Extinguishing Media: Foamy spray. Dry chemical. Carbon dioxide (CO2).

Fire and Explosion Hazards: Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 122°F (50°C).

Special Firefighting Procedures: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spill or Leak: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dispose of in accordance with local regulations.

SECTION 7 – HANDLING AND STORAGE

Handling Procedures and Equipment: Wear personal protective equipment. Do not pierce or burn, even after use. Do not spray on naked flame or any incandescent material.

Storage Requirements: KEEP OUT OF REACH OF CHILDREN. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 122°F (50°C).

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Eye Protection: Safety glasses with side-shields.

Protective Clothing: Neoprene gloves

Exposure Guidelines: See Section 2

Specific Engineering Controls (such as ventilation, enclosed process): Ensure adequate ventilation, especially in confined areas

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Aerosol	Freezing Point: No Data.°C/No Data.°F	% Volatile by Weight: 96.5 %
Color: Clear	Vapor Density [air =1]: No Data.	Evaporation Rate: 2.1 (concentrate only) (n-butyl acetate = 1)
Odor: Ethereal	Vapor Pressure: PSIG @ 70°F (Aerosols): 85-100.	Specific Gravity: 1.45
Boiling Point: No Data.°C/No Data.°F	Solubility in Water: Insoluble.	pH (concentrate): No Data.

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability: Stable

Hazardous Polymerization: Hazardous polymerization does not occur

Incompatibilities: Reactive metals. Magnesium. Strong oxidizing agents. Product may react with aluminum if immersed in liquid concentrate trichloroethylene for extended periods.

Reactive Conditions to avoid: Heat, flames and sparks. Extremes of temperature and direct sunlight. Do not expose to temperatures above 54°C .

Decomposition Products: Carbon oxides , Hydrogen chloride (trace amounts), Phosgene (trace amounts) or Chlorine (trace amounts)

SECTION 11 – TOXICOLOGICAL INFORMATION

<u>Hazardous Ingredients</u>	<u>CAS #</u>	<u>EINECS #</u>	<u>LD 50 of Ingredient</u> (Specify Species)	<u>LC50 of Ingredient</u> (Specify Species)
Trichloroethylene	79-01-6	N/D	Oral LD50 Rat: 5650 mg/kg; Dermal LD50 Rabbit: >20 g/kg	Inhalation LC50 Mouse: 8450 ppm/4H;
Carbon dioxide	124-38-9	N/D	No Data.	No Data.

SECTION 12 – ECOLOGICAL INFORMATION

<u>Hazardous Ingredients</u>	<u>Aquatic Toxicity Data</u>
Trichloroethylene	96 Hr LC50 fathead minnow: 44.1 mg/L (flow-through)
Carbon dioxide	No Data.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal: Should not be released into the environment. Dispose of in accordance with local regulations.

SECTION 14 – TRANSPORTATION INFORMATION

Special Shipping Information: No Data.

<u>Purview</u>	<u>Proper Shipping Name</u>	<u>UN Number</u>	<u>Packing Group</u>	<u>Hazard Class</u>
DOT (Land)	Consumer Commodity ORM-D	No Data.	No Data.	No Data.
IMO (Water)	No Data.	No Data.	No Data.	No Data.
ICAO (Air)	Aerosols, Non-Flammable	UN1950	No Data.	2.2

SECTION 15 – REGULATORY INFORMATION

WHMIS Classification: (Workplace Hazardous Material Information System)	D1B, D2A, D2B
SARA Title III: (Superfund Amendments & Reauthorization Act)	Yes - Trichloroethylene
OSHA: (Occupational Safety & Health Administration)	See Section 2
TSCA: (Toxic Substance Control Act)	Present
VOC: (volatile Organic Compounds)	96.5 %
CPR: (Canadian Controlled Products Regulations)	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations.
EINECS: (European Inventory of Existing Commercial Chemical Substances)	No Data.
DSL / NDSL: (Canadian Domestic Substance List)(Non-Domestic Substance List)	Present
CERCLA: (Comprehensive Response Compensation & Liability Act)	Trichloroethylene - 100 lb RQ
IDL: (Canadian Ingredient Disclosure List)	No Data.
NFPA (HMIS) Rating: (Hazardous Materials Identification System)	Health=2; Fire=0; Reactivity=0 Personal protective equipment = B

SECTION 16 – OTHER INFORMATION

No Data.

The information contained herein is based on the data available to us and is believed to be correct. However, Nu-Calgon Wholesaler Inc. makes no warranty, expressed, or implied, regarding the accuracy of this data or the results to be obtained from the use thereof. Nu-Calgon Wholesaler Inc. assumes no liability for injury from the use of the product described herein.

SAFETY DATA SHEET



Carbon Dioxide

Section 1. Identification

GHS product identifier	: Carbon Dioxide
Chemical name	: Carbon dioxide
Other means of identification	: Carbonic, Carbon Dioxide, Carbonic Anhydride, R744
Product use	: Synthetic/Analytical chemistry.
Synonym	: Carbonic, Carbon Dioxide, Carbonic Anhydride, R744
SDS #	: 001013
Supplier's details	: Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
Emergency telephone number (with hours of operation)	: 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: GASES UNDER PRESSURE - Liquefied gas Simple asphyxiant.

GHS label elements

Hazard pictograms



Signal word

: Warning

Hazard statements

: Contains gas under pressure; may explode if heated.
May cause frostbite.
May displace oxygen and cause rapid suffocation.
May increase respiration and heart rate.

Precautionary statements

General

: Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position.

Prevention

: Use and store only outdoors or in a well ventilated place.

Response

: Not applicable.

Storage

: Protect from sunlight. Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.

Disposal

: Not applicable.

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Version : 1

1/12

Section 2. Hazards identification

Hazards not otherwise classified : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.
May cause frostbite.

Section 3. Composition/information on ingredients

Substance/mixture : Substance
Chemical name : Carbon dioxide
Other means of identification : Carbonic, Carbon Dioxide, Carbonic Anhydride, R744

CAS number/other identifiers

CAS number : 124-38-9

Product code : 001013

Ingredient name	%	CAS number
Carbon Dioxide	100	124-38-9

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Frostbite : Try to warm up the frozen tissues and seek medical attention.
Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.

Section 4. First aid measures

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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Version : 1

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Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Carbon Dioxide	<p>ACGIH TLV (United States, 3/2012). Oxygen Depletion [Asphyxiant]. STEL: 54000 mg/m³ 15 minutes. STEL: 30000 ppm 15 minutes. TWA: 9000 mg/m³ 8 hours. TWA: 5000 ppm 8 hours.</p> <p>NIOSH REL (United States, 1/2013). STEL: 54000 mg/m³ 15 minutes. STEL: 30000 ppm 15 minutes. TWA: 9000 mg/m³ 10 hours. TWA: 5000 ppm 10 hours.</p> <p>OSHA PEL (United States, 6/2010). TWA: 9000 mg/m³ 8 hours. TWA: 5000 ppm 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). STEL: 54000 mg/m³ 15 minutes. STEL: 30000 ppm 15 minutes. TWA: 18000 mg/m³ 8 hours. TWA: 10000 ppm 8 hours.</p>

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

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Version : 1

4/12

Section 8. Exposure controls/personal protection

Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Skin protection	
Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	: Gas. [Liquefied compressed gas.]
Color	: Colorless.
Molecular weight	: 44.01 g/mole
Molecular formula	: C-O2
Melting/freezing point	: Sublimation temperature: -79°C (-110.2 to °F)
Critical temperature	: 30.85°C (87.5°F)
Odor	: Odorless.
Odor threshold	: Not available.
pH	: Not available.
Flash point	: [Product does not sustain combustion.]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: 830 (psig)
Vapor density	: 1.53 (Air = 1) Liquid Density@BP: Solid density = 97.5 lb/ft3 (1562 kg/m3)
Specific Volume (ft ³/lb)	: 8.7719

Section 9. Physical and chemical properties

Gas Density (lb/ft ³)	: 0.114
Relative density	: Not applicable.
Solubility	: Not available.
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: 0.83
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
SADT	: Not available.
Viscosity	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Section 11. Toxicological information

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Carbon Dioxide	0.83	-	low

Mobility in soil





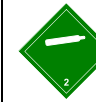
Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1013	UN1013	UN1013	UN1013	UN1013
UN proper shipping name	CARBON DIOXIDE	CARBON DIOXIDE	CARBON DIOXIDE	CARBON DIOXIDE	CARBON DIOXIDE
Transport hazard class(es)	2.2 	2.2 	2.2 	2.2 	2.2 
Packing group	-	-	-	-	-
Environment	No.	No.	No.	No.	No.
Additional information	Limited quantity Yes. Packaging instruction Passenger aircraft Quantity limitation: 75 kg Cargo aircraft	Explosive Limit and Limited Quantity Index 0.125 Passenger Carrying Road or Rail Index 75	-	-	Passenger and Cargo Aircraft Quantity limitation: 75 kg Cargo Aircraft Only Quantity limitation: 150 kg

Section 14. Transport information

	Quantity limitation: 150 kg				
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“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

Special precautions for user : **Transport within user’s premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** This material is listed or exempted.
United States inventory (TSCA 8b): This material is listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Sudden release of pressure

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Carbon Dioxide	100	No.	Yes.	No.	Yes	No.

State regulations

Massachusetts : This material is listed.

New York : This material is not listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

Canada inventory : This material is listed or exempted.

Section 15. Regulatory information

International regulations

International lists

- : **Australia inventory (AICS)**: This material is listed or exempted.
- : **China inventory (IECSC)**: This material is listed or exempted.
- : **Japan inventory**: This material is listed or exempted.
- : **Korea inventory**: This material is listed or exempted.
- : **Malaysia Inventory (EHS Register)**: Not determined.
- : **New Zealand Inventory of Chemicals (NZIoC)**: This material is listed or exempted.
- : **Philippines inventory (PICCS)**: This material is listed or exempted.
- : **Taiwan inventory (CSNN)**: Not determined.

Chemical Weapons Convention List Schedule I Chemicals

- : Not listed

Chemical Weapons Convention List Schedule II Chemicals

- : Not listed

Chemical Weapons Convention List Schedule III Chemicals

- : Not listed

Canada

WHMIS (Canada)

- : Class A: Compressed gas.
- CEPA Toxic substances**: This material is listed.
- Canadian ARET**: This material is not listed.
- Canadian NPRI**: This material is not listed.
- Alberta Designated Substances**: This material is not listed.
- Ontario Designated Substances**: This material is not listed.
- Quebec Designated Substances**: This material is not listed.

Section 16. Other information

Canada Label requirements : Class A: Compressed gas.

Hazardous Material Information System (U.S.A.)

Health	1
Flammability	0
Physical hazards	3

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



Section 16. Other information

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of printing : 5/26/2015.

Date of issue/Date of revision : 5/26/2015.

Date of previous issue : 5/21/2015.

Version : 1

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- UN = United Nations
- ACGIH – American Conference of Governmental Industrial Hygienists
- AIHA – American Industrial Hygiene Association
- CAS – Chemical Abstract Services
- CEPA – Canadian Environmental Protection Act
- CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act (EPA)
- CFR – United States Code of Federal Regulations
- CPR – Controlled Products Regulations
- DSL – Domestic Substances List
- GWP – Global Warming Potential
- IARC – International Agency for Research on Cancer
- ICAO – International Civil Aviation Organisation
- Inh – Inhalation
- LC – Lethal concentration
- LD – Lethal dosage
- NDSL – Non-Domestic Substances List
- NIOSH – National Institute for Occupational Safety and Health
- TDG – Canadian Transportation of Dangerous Goods Act and Regulations
- TLV – Threshold Limit Value
- TSCA – Toxic Substances Control Act
- WEEL – Workplace Environmental Exposure Level
- WHMIS – Canadian Workplace Hazardous Material Information System

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

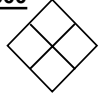


MATERIAL SAFETY DATA SHEET

5100 W. Henrietta Rd.
West Henrietta, NY 14586
TEL: (866) 260-0501

MSDS No. 9409604
Effective Date: 9409704 9409705
December 1, 2005

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	Carborundum	416-984-3000 NFPA  HAZARD RATING Least Slight Moderate Serious Severe 0 1 2 3 4 WHMIS 0 1 2 3 4
Chemical Synonyms	Silicon Carbide	
Formula	SiC	
CAS No.	409-21-2	

SECTION II DANGEROUS INGREDIENTS

Name	%	TLV Units
Carborundum	> 99%	TWA: 10 mg/m ³
CAUTION!		

SECTION III PHYSICAL DATA

Melting Point (°C)	2700°C	Specific Gravity (H ₂ O = 1)	3.17
Boiling Point (°C)	2200°C	Percent Volatile by Volume (%)	N/A
Vapor Pressure (mm Hg)	N/A	Evaporation Rate (=1)	N/A
Vapor Density (Air=1)	N/A		
Solubility in Water	Insoluble.		
Appearance & Odor	Bluish-black crystalline powder; no odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash point	Non-flammable.	Flammable Limits in Air % by Volume	N/A	Lower	Upper
Firefighting Procedures					

Use dry chemical, CO₂, alcohol foam, or water spray. In fire conditions, fire-fighters should wear an appropriate mask or a self-containing breathing apparatus.

Flammability and Explosion Hazards

Avoid dispersion of dust in air.

TDG Not controlled under TDG.

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. For laboratory use only. Not for drug, food or household use. Keep out of reach of children. Printed on recycled paper.

SECTION V REACTIVITY DATA

CC0185

Chemical Stability	Yes	X	If no. under what conditions?
	No		
Incompatible with Other products	Yes		None known.
	No	X	
Hazardous Decomposition Products	None known.		
Reactive under what conditions	No specific information is available.		

SECTION VI TOXICOLOGICAL PROPERTIES

Route of Entry	Inhalation.
TLV	TWA: 10 mg/m ³
Toxicity for animals	N/A
Chronic effects on humans	There is no known effects from chronic exposure to this product. Target organs: None known.
Acute effects on humans	Harmful if inhaled as dust. May cause eye irritation, skin irritation.

SECTION VII PREVENTIVE MEASURES

Waste Disposal	Discharge, treatment, or disposal may be subject to local laws. Consult your local or regional authorities.
Storage	Keep container dry. Keep in a cool place. Keep container tightly closed. Keep away from heat, sources of ignition.
Precautions	May be harmful if inhaled. May cause eye irritation, skin irritation. Avoid contact with skin and eyes. Do not breathe dust. Do not ingest. If ingested, seek medical advice immediately.
Spill or leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Protective Clothing	Safety glasses, lab coat, dust respirator, gloves.

SECTION VIII FIRST AID MEASURES

Specific first aid measures	Ingestion: Call physician or Poison Control Center immediately. Induce vomiting only if advised by the appropriate medical personnel. Eye contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention. Skin contact: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Inhalation: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Allow victim to rest in a well ventilated area. Seek immediate medical attention.
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SECTION IX PREPARATION OF THE MSDS

Rev. No.	3	Date	December 1, 2005	Approved	Michael Raszeja
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Telephone D'urgence

416-984-3000

NFPA



Niveau de risque

Minimal 0 Léger 1 Modéré 2 Sévère 3 Sévère 4

Santé	1
Flammabilité	0
Reactivité	0

WHMIS

SECTION I Identification

Produit	Carborundum
Synonymes	Le carbure de silicium
Formule	SiC
# CAS	409-21-2

SECTION II Ingrédients Dangereux

Nom	%	TWA
Carborundum	> 99%	TWA: 10 mg/m ³
ATTENTION!		

SECTION III Caractéristiques Physiques

Point de fusion (°C)	2700°C	Gravité spécifique (Eau = 1)	3,17
Point d'ébullition (°C)	2200°C	Volatilité % par volume	Sans objet.
Tension de vapeur (mm Hg)	Sans objet.	Taux d'évaporation (= 1)	Sans objet.
Densité de la vapeur (Air=1)	Sans objet.		
Solubilité	Insoluble.		
Odeur et apparence	Bleuâtre-noir cristallin poudre; inodore.		

SECTION IV Risques D'incendie ou D'explosion

Point d'éclair	Ininflammable.	Limites d'inflammabilité % par volume	Sans objet.	Seuil minimal	Seuil maximal
Moyens d'extinction	Utiliser des poudres chimiques sèches, du CO ₂ , une mousse d'alcool ou de l'eau pulvérisée. En cas de feu, sapeur-pompier devra porter en masque adéquate ou un respirateur autonome.				

Inflammabilité et
risques d'explosion

Évitez la dispersion de la poussière en air.

TMD Substance non réglementée par le TMD (Canada).

Au meilleur de nos connaissances, l'information contenue dans ce document est exacte. Toutefois, ni le fournisseur ci-haut mentionné ni aucune de ses succursales ne peut assumer quelque responsabilité que ce soit en ce qui a trait à l'exactitude ou à l'état complet de l'information contenue dans ce document. La détermination finale de la convenance de tout matériel ou produit est la responsabilité exclusive de l'utilisateur. Tous les matériaux ou produits peuvent présenter certains risques et devraient être utilisés avec prudence. Bien que certains risques soient décrits dans ce document, nous ne pouvons garantir que ce sont les seuls risques qui existent.

SECTION V Données sur la Réactivité

CC0185

Chimique	oui	X	Si non, dans quelles condition?
Stabilité	non		
Incompatibilité avec d'autres produits	oui		Aucun inconnu.
	non	X	

Produits de décomposition dangereux	Aucun inconnu.
Conditions de Réactivité	Aucune information spécifique n'est disponible.

SECTION VI Propriétés Toxicologiques

Voies d'absorption	Inhalation.
LMP	TWA: 10 mg/m ³
Toxicité pour les animaux	Sans objet.
Effets chroniques sur les humains	Il n'y a aucun effet connu dû à une exposition chronique à ce produit. On ne connaît aucun organe de cible.
Effets aiguë sur les humains	Nocif en cas d'inhalation comme poussière. Peut provoquer une irritation des yeux, une irritation de la peau.

SECTION VII Mesures Préventives

Élimination des résidus	Consulter vos autorités locales ou régionales.
Entreposage	Conserver le récipient à l'abri de l'humidité. Conserver dans un endroit frais. Garder le récipient bien fermé. Tenir à l'écart de la chaleur, de toute d'ignition.
Précautions	Peut être nocif se inhaler, si ingérer. Peut provoquer une irritation des yeux, une irritation de la peau. Éviter tout contact avec la peau et les yeux. Ne pas inhaler les poussières. Ne pas ingérer. Si ingéré il faut consulter immédiatement un médecin.
Déversement ou fuite	Utiliser les instruments nécessaires pour mettre le solide répandu dans un contenant de récupération approprié.
Vêtements de protection	Lunettes de sécurité, blouse de laboratoire, respirateur anti-poussières, gants.

SECTION VIII Premiers Soins

Premier Soins Particuliers à Administrer	Ingestion: Consulter une médecin ou le centre de poison commande immédiatement. Induisez le vomissement seulement s'informé par le personnel médical approprié. Contact oculaire: Vérifier si la victime porte des verres de contact et dans ce cas lui les enlever. Rincer les yeux immédiatement à l'eau courante pendant au moins 15 minutes en gardant les paupières ouvertes. Obtenir de l'aide médicale. Contact cutané: Laver doucement et entièrement la peau contaminée à l'eau courante avec un savon doux et non-abrasif. Inhalation: Sortir la victime à l'air frais. Si elle ne respire plus il faut lui donner de la respiration artificielle. Si la respiration est difficile, donnez l'oxygène. Assurez-vous que la victime se repose dans un endroit bien aéré. Obtenir immédiatement de l'aide médicale.
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SECTION IX Renseignements sur la Préparation de la FS

# Rev.	3	Date	1 décembre, 2005	Véifié par	Michael Raszeja
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FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 216.00

Revision Date: February 6, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Carmine

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Carmine	1390-65-4	C ₂₂ H ₂₀ O ₁₃	492.39	
Synonyms: Alum lake; Natural red 4; C.I. 75470				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators and stains.
Keep container tightly closed. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling. Will stain skin, clothing, and surfaces.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Red powder. Odorless.	Absorbance maximum: 500nm
Soluble: Alkali solutions and ethyl alcohol. Slightly in hot water.	
Insoluble in dilute acids and cold water.	Biological stain.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.	ORL-RAT LD ₅₀ : N.A.
Chronic effects: N.A.	IHL-RAT LC ₅₀ : N.A.
Target organs: N.A.	SKN-RBT LD ₅₀ : N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (215-724-4).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: February 6, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 217.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Carmine-Aceto Solution

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2B). Causes skin and eye irritation (H315+H320).

Hazard class: Sensitization, skin (Category 1). May cause an allergic skin reaction (H317). Avoid breathing mist, vapors or spray (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Carmine	1390-65-4	$C_{22}H_{20}O_{13}$	492.39	0.5%
Acetic acid	64-19-7	CH_3COOH	60.05	45%
Water	7732-18-5	H_2O	18.00	54.5%
Synonyms: Bellings iron-aceto-carmine; Carmine aceto solution				

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338).

If on skin (or hair): Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353).

If swallowed: Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators and stains.
Keep container tightly closed. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Will stain skin, clothing, and surfaces.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Red-colored liquid. Pungent vinegar odor.

Boiling point: 105 °C

Used as biological stain and fixative.

SECTION 10 — STABILITY AND REACTIVITY

Avoid heat and oxidizing materials.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Corrosive.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 3310 mg/kg as acetic acid

IHL-RAT LC₅₀: 5620 ppm/1H as acetic acid

SKN-RBT LD₅₀: 1.06 mg/kg as acetic acid

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #24a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

Carnoy's Solution Fixative

Material Safety Data Sheet

Science Stuff, Inc.

1104 Newport Ave

Austin, TX 78753 Phone (512) 837-6020

Chemtrec 800-424-9300

24 Hour Emergency Assistance

Section 1 Identification

Product Number: C1466 Health: 3

Flammability 3

Reactivity 0

Hazard Rating:

Least Slight Moderate High Extreme

0 1 2 3 4

NA = Not Applicable NE = Not Established

Product Name: Carnoy's Solution (Fixative)

Trade/Chemical Synonyms

Formula: N/A

RTECS: NONE

C.A.S See Below

Section 2 Component Mixture

Sara 313 Component CAS Number % Dim Exposure Limits:

Acetic Acid, Glacial CAS# 64-19-7 10% V/V 10 ppm OSHA TWA, 15 ppm OSHA STEL

Alcohol, Reagent Denatured Ethyl Alcohol 60% V/V OSHA TWA 1000 ppm (1900 mg/mf)

Chloroform CAS# 67-66-3 30% V/V OSHA TWA 75 ppm (350 AMG/Mf)

Section 3 Hazard Identification (Also see section 11)

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

Section 4 First Aid Measures

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: CALL A PHYSICIAN. SKIN: Remove contaminated clothing. Wash exposed area with soap and water.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconscious person.

Carnoy's Solution Fixative

Section 5 Fire Fighting Measures

Fire Extinguisher Type: Carbon Dioxide, dry chemical powder or appropriate foam
Fire/Explosion Hazards: vapors heavier than air and will stay at the floor level.
Fire Fighting Procedure: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

Section 6 Accidental Release Measures

Evacuate area. Wear self-contained breathing apparatus and protective clothing.
Eliminate all sources of ignition.

Section 7 Handling and Storage

Store in a cool dry well ventilated area. Keep away from heat and flame. Do not get in eyes, on skin, or on clothing.

Section 8 Exposure Controls & Personal Protection

Respiratory Protection: NIOSH/MSHA-approved respirator

Ventilation: Mechanical: Hand Protection: Solvent resistant gloves as neoprene or nitrile

Local Exhaust: Eye Protection: Splash Goggles

Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

Section 9 Physical and Chemical Properties

Melting Point: Information not available Specific Gravity information not available

Boiling Point: Information not available Percent Volatile by Volume: 100%

Vapor Pressure: Information not available Evaporation Rate: information not available

Vapor Density: Information not available Evaporation Standard: Not Applicable

Solubility in Water: insoluble Auto ignition Temperature: information not available
Appearance and Odor: clear colorless liquid. Lower Flamm. Limit in Air: information not available

Flash Point: information not available Upper Flamm. Limit in Air: information not available

Section 10 Stability and Reactivity Information

Stability: Stable Conditions to Avoid: Avoid contact with heat, sparks, flames, or other sources of ignition.

Materials to Avoid:

Oxidizing materials

Hazardous Decomposition Products:

TOXIC gases produced at decomposition

Hazardous Polymerization: Will Not Occur

Condition to Avoid: None known

Section 11 Additional Information

EXTREME DANGER!!! This material can cause death if inhaled, ingested or absorbed through the skin. Effect of over exposure: irritation to the eyes, skin and upper respiratory tract. Acute: dizziness, headache, nausea and respiratory distress. Chronic: extremely irritating, can cause coma and even DEATH. Condition aggravated/target organs. Persons with pre-existing eye, skin or respiratory

Carnoy's Solution Fixative

conditions may be more susceptible.

DOT Classification: Flammable Liquid, n.o.s. (Ethanol, Acetic Acid), 3, UN1993, PG II

DOT regulations may change from time to time. Please consult the most recent version of the relevant regulations.

Revision No:0 Date Entered: 9/1/2006 Approved by: WPF

The information contained herein is believed to be accurate and is offered in good faith for the user's consideration and investigation. No warranty is expressed or implied regarding the completeness or accuracy of this information, whether originating from Science Stuff, Inc. or from an alternate source. Users of this material should satisfy themselves by independent investigation of current scientific and medical information that this material may be safely handled.

MATERIAL SAFETY DATA SHEET

CAROLINA BLU DNA STAIN
CAROLINA BIOLOGICAL

Revised: 05/15/08
Replaces: 09/12/07
Printed: 05/20/08

1. PRODUCT DESCRIPTION

Product Name: Carolina Blu (TM) DNA Stain
Product Code(s): 21-7300, 21-1149, C30529
Size: Various
Chemical Name: Does not apply
Synonyms: Carolina Blu(TM) Gel and Buffer Stain; Carolina Blu(TM) Final Stain
Distributor: Carolina Biological Supply Company
2700 York Road
Burlington, NC 27215

Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec (Transportation Spill Response 24 hours): 800-424-9300

2. HAZARD IDENTIFICATION

To the best of our knowledge, this product is not considered hazardous as defined by the OSHA Hazard Communication Standard. However, Carolina Biological is providing an abbreviated MSDS containing general information about this chemical.

Eyes - Flush with water for at least 15 minutes, raising and lowering eyelids occasionally. Get medical attention if irritation persists.

Skin - Thoroughly wash exposed area for at least 15 minutes. Remove contaminated clothing. Launder contaminated clothing before reuse. Get medical attention if irritation persists.

Ingestion - If swallowed, if conscious, give plenty of water.

Immediately call a physician or poison control center. Never give anything by mouth to an unconscious person.

Inhalation - Remove to fresh air. Give oxygen if breathing is difficult; give artificial respiration if breathing has stopped. Keep person warm and quiet, and get medical attention.

3. SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled:

Ventilate area of spill. Eliminate all sources of ignition.

Remove all non-essential personnel from area. Clean-up personnel should wear proper protective equipment and clothing. Absorb material with suitable absorbent and containerize for disposal.

4. SPECIAL PROTECTION INFORMATION

Respiratory Protection(Specify Type): None needed under normal conditions of use.

Protective Gloves:

Rubber, neoprene, PVC, or equivalent.

Eye Protection:

Splash proof chemical safety goggles should be worn at all times.

Other Protective Clothing or Equipment:

Lab apron, eye wash, and safety shower.

5. FIREFIGHTING PROCEDURES

Extinguisher Media:

Use media suitable to extinguish surrounding fire.

6. DISPOSAL INFORMATION

Generally, may be diluted with water and poured down the drain into sanitary sewer, if local regulations permit.

MATERIAL SAFETY DATA SHEET

CAROLINA BLU DNA STAIN
CAROLINA BIOLOGICAL

Revised: 05/15/08
Replaces: 09/12/07
Printed: 05/20/08

MATERIAL SAFETY DATA SHEET

NFPA RATING: Health = 1 Flammability = 0 Reactivity = 0
HMIS RATING: Health = 1/1 Flammability = 0 Reactivity = 0

SECTION I -- IDENTITY AND MANUFACTURER'S INFORMATION (527N-82A)

Manufacturer's Name: HILLYARD INDUSTRIES **Product Name:** CARPET PRE-SPRAY
Address: 302 North Fourth Street **Date Prepared:** December 23, 2008 (version 2)
 St. Joseph, MO 64501 **Prepared by:** Regulatory Affairs Department
Emergency Telephone No.: (800)-424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.) **Other information calls:** (816) 233-1321 (Ext. 8285)
<http://www.hillyard.com>

SECTION II -- INGREDIENTS/IDENTITY INFORMATION**Components**

(Specific Chemical Identity: Common Name(s))	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Water	7732-18-5	none	none	N/A	---
Sodium Xylene Sulfonate	1300-72-7	not established	not established	N/A	---
Complex Surfactant Blend	Unknown to Hillyard	not established	not established	N/A	---
Sodium Gluconate	527-07-1	not established	not established	N/A	---
Sodium Carbonate	497-19-8	not established	not established	N/A	---

VOS = 0%

***SECTION III -- PHYSICAL / CHEMICAL CHARACTERISTICS**

Boiling Point: 204°F **Specific Gravity (H₂O = 1):** 25°C = 1.06 & 39°C = 1.06
Vapor Pressure (mm Hg.): 17.5 **Percent Volatile by Volume (%):** 86.8
Vapor Density (AIR = 1): 0.6 **Evaporation Rate (ethyl ether = 1):** slower than 1
Solubility in Water: complete **Appearance and Odor:** clear, colorless liquid; nonobjectionable odor
***pH (concentrate) =** 9 – 10.0 ***pH (diluted 1:20) =** 9 – 10

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

Flash point: none (T.C.C.) **Flammable Limits:** LEL = N/A UEL = N/A
Extinguishing Media: Water fog, carbon dioxide, foam, dry chemical.
Special Fire Fighting Procedures: Self-contained positive pressure breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.
Unusual Fire and Explosion Hazards: N/A

SECTION V -- PHYSICAL HAZARDS

Stability: Stable **Conditions to Avoid:** N/A
Incompatibility (Materials to Avoid): Avoid strong oxidizing agents or strong mineral acids.
Hazardous Decomposition Products or Byproducts: Decomposition products under fire conditions: fumes of ammonia, carbon monoxide, carbon dioxide, oxides of nitrogen and various hydrocarbons.
Hazardous Polymerization: Will not occur **Conditions to Avoid:** N/A

SECTION VI -- HEALTH HAZARD DATA

Routes of entry: Inhalation? No Skin? No Ingestion? No

HEALTH HAZARDS (1. Acute and 2. Chronic)

1. Not a primary skin irritant per Federal Hazardous Substance Act. Prolonged contact with skin may cause slight irritation. Prolonged contact with eye may produce irritation. Concentrate not acute oral toxicity at 5 g/kg. 2. None known to Hillyard.

Chemical listed as Carcinogen or Potential Carcinogen:

National Toxicology Program = No I.A.R.C. Monographs = No OSHA = No

This product has no carcinogens listed by IARC, NTP, NIOSH, or ACGIH as of this date, greater than or equal to 0.1%.

Signs and Symptoms of Exposure: Concentrate may be irritating to eyes if not removed promptly. Breathing of highly concentrated vapors or spray mists may cause irritation to the respiratory tract.

Medical Conditions Generally Aggravated by Exposure: N/A

Emergency and First Aid Procedures: In case of contact, immediately flush eyes with plenty of water for 15 minutes; get medical attention. If inhaled, remove to fresh air. If breathing is difficult, get medical attention.

SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: Pick up with mop or wet vac and wash away with water. Spills of concentrate should be picked up with wet vac and rinsed thoroughly.

Waste Disposal Method: Wash down sewer with large quantity of water. Container disposal: Triple rinse (or equivalent), then offer clean, dry container for recycling or reconditioning.

Precautions To Be Taken In Handling And Storing: Freezing of product may rupture container. Product shelf life is best retained by storage at 45-100°F temperature.

Other Precautions: This product contains no reportable quantities of toxic chemicals subject to reporting requirements of Sec. 313 of SARA Title III Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR Part 372.

SECTION VIII -- CONTROL MEASURES:

Respiratory Protection (Specify Type): Not required

Ventilation:

Local Exhaust = Not required **Mechanical (General) =** N/A **Special =** N/A **Other =** N/A

Protective Gloves: None required **Eye Protection:** Safety goggles suggested where splash of concentrate is a concern.

Other Protective Clothing or Equipment: None required

Work / Hygienic Practices: Wash thoroughly after handling.

SECTION IX - TRANSPORTATION INFORMATION:

Applicable regulations: 49 CFR = no; IMCO = no; IATA = no

Proper shipping name: Cleaning compound

UN No.: not applicable **Limited Qty.:** not applicable **Hazard Class =** not applicable

Labels required: not required **DOT Exception:** not applicable

EPA Hazardous waste number / code: not listed

Hazardous waste characteristics:

Ignitability = not applicable; **Corrosivity =** not applicable; **Reactivity =** not applicable

DISCLAIMER OF WARRANTIES

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY NATURE ARE MADE WITH RESPECT TO THE PRODUCT(S) OR INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET.

The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate.

THE BUYER OR USER ASSUMES ALL RISKS ASSOCIATED WITH THE USE, MISUSE OR DISPOSAL OF THIS PRODUCT. THE BUYER OR USER IS RESPONSIBLE TO COMPLY WITH ALL FEDERAL, STATE OR LOCAL REGULATIONS CONCERNING THE USE, MISUSE OR DISPOSAL OF THESE PRODUCTS.

CARPET SANITIZER / CARPET SANITIZER EXT. BONNET CL.

MATERIAL SAFETY DATA SHEET (SIMILAR TO OSHA FORM 174)

N.A.=Not Applicable
Not Est.=Not Established
Prop.=Proprietary

SECTION 1-MANUFACTURER/DISTRIBUTOR INFORMATION

Product Name: Carpet Sanitizer

Supplier's Name: INDCO, Inc.

Supplier's Address: N. Railroad & Essex St., Gloucester City, NJ 08030

HMIS Hazard Code: Health:1 Flammability:0 Reactivity:0 Other:0

Chemical Family: Disinfectant Cleaners

D.O.T. Shipping Name: N/A

Emergency Phone #: (856)456-6100

Chemical Name: N.A. Proprietary Blend

Formula: N/A Blended Product

Hazard Class: N/A D.O.T. ID#: N/A

SECTION 2-HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NO.	% Concentrate Range	Hazard Ratings (TLV/PEL)
Sodium Metasilicate	6834-92-0	PROP.	Not Est.
Polyethylene Mono (Nonylphenyl) Ether Glycols	9016-45-9	PROP.	Not Est.
N,N-Dialkyldimethyl Ammonium Chloride	68424-95-3	PROP.	Not Est.
N, Alkyl-N,N-Dimethyl-N-N Benzyl Ammonium Chloride	68424-85-1	PROP.	Not Est.

SECTION 3-PHYSICAL DATA

Boiling Point (F): 212°
Vapor Pressure: = To Water
Vapor Density: = To Water
Solubility in Water: Complete
Appearance: Thin Liquid
Odor: Giane™ Fresh

Specific Gravity: 1.07
Evaporation Rate: = To Water

SECTION 4-FIRE AND EXPLOSION DATA

Flash Point (F): None to boiling (TOC)
Flammable Limits: N.A.
Unusual Fire & Explosion Hazards: None

SECTION 5-HEALTH HAZARD DATA

Route(s) of Entry: Inhalation:No Skin:Yes Ingestion:Yes Threshold Limit Value: Not Est.
Effects of Overexposure: Causes skin and eye irritation. If ingested causes severe gastric irritation and toxic reaction.
Emergency & First Aid Procedures: For Eyes: Flush with water for at least fifteen minutes. Get medical aid. For Skin: Flush thoroughly with water. If irritation persists get medical aid. If Ingested: Do not induce vomiting. Give milk, egg white, gelatin, or if none of these are available give large quantities of water. Get medical aid.
Conditions Aggravated by Exposure: May aggravate pre-existing skin conditions.

Listed Carcinogen, Mutagen, Teratogen (Ingredient, Source, Amount): None

SECTION 6-REACTIVITY DATA

Stability: Stable
Conditions to Avoid: None
Incompatibility: Strong Acids and Oxidizers
Hazardous Decomposition Products: Carbon Oxides and Amines
Hazardous Polymerization: Will not occur.

SECTION 7-SPILL OR LEAK PROCEDURES

Steps to be taken if material is released or spilled:
Recontainerize by mopping, wet vacuum, or using a suitable absorbent. Be cautious of slippery floors.
Waste disposal method: Follow local, state, and federal regulations. See product label for EPA disposal requirements.

SECTION 8-SPECIAL PROTECTION INFORMATION

Respiratory Protection: Not Required.
Ventilation: Local.
Protective Gloves: Latex or rubber.
Eye Protection: Safety glasses.
Other Protective Equipment: Rubber boots recommended if working in standing solutions

SECTION 9-SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store between 40° and 120° F.
Other Precautions: It is violation of federal law to use this product in a manner inconsistent with its labeling. Keep out of reach of children. For sale to, use and storage by service personnel only.

The information contained in this MSDS was obtained from current and reliable sources, however the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions or handling, storage and disposal of this product are beyond the control of this company, it is not responsible for loss, injury and expense arising out of the product's improper use. No warranty, expressed or inferred, regarding the product described in this MSDS shall be created or inferred by any statement in this MSDS. Various government agencies may have specific regulations regarding the transportation, handling, storage, use or disposal of this product which may not be covered by this MSDS. The user is responsible for full compliance.

DATE PREPARED-10/5/00 By: G.C.

CARPET SANITIZER / CARPET SANITIZER EXT. BONNET CL.

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Route(s) of Entry: Inhalation:No Skin:Yes Ingestion:Yes Threshold Limit Value: Not Est.
Effects of Overexposure: Causes skin and eye irritation. If ingested causes severe gastric irritation and toxic reaction.
Emergency & First Aid Procedures: For Eyes: Flush with water for at least fifteen minutes. Get medical aid. For Skin: Flush thoroughly with water. If irritation persists get medical aid. If Ingested: Do not induce vomiting. Give milk, egg white, gelatin, or if none of these are available give large quantities of water. Get medical aid.
Conditions Aggravated by Exposure: May aggravate pre-existing skin conditions.

Listed Carcinogen, Mutagen, Teratogen (Ingredient, Source, Amount): None

SECTION 6-REACTIVITY DATA

Stability: Stable
Conditions to Avoid: None
Incompatibility: Strong Acids and Oxidizers
Hazardous Decomposition Products: Carbon Oxides and Amines
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Respiratory Protection: Not Required.
Ventilation: Local.
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Eye Protection: Safety glasses.
Other Protective Equipment: Rubber boots recommended if working in standing solutions

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DATE PREPARED-10/5/00 By: G.C.

1. Identification

Product identifier	CARPET DEBROWNER II
Other means of identification	
SDS number	538N-74A
Product code	HIL00907
Recommended use	Carpet Cleaner
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Manufacturer	
Company name	HILLYARD INDUSTRIES
Address	302 North Fourth St. St. Joseph, MO 64501
Contact person	Regulatory Affairs
Telephone number	(816) 233-1321 (Ext. 8285)
Fax	(816) 383-8485
E-mail	regulatoryaffairs@hillyard.com
Emergency telephone #	(800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals)

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Warning
Hazard statement	Causes skin irritation. Causes serious eye irritation.
Precautionary statement	
Prevention	Wash thoroughly after handling. Wear protective gloves. Wear eye/face protection.
Response	If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage	Store away from incompatible materials.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Propylene glycol monomethyl ether		107-98-2	< 1
Other components below reportable levels			90 - 100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	If swallowed, do NOT induce vomiting. Drink 1 or 2 glasses of water. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Call a physician immediately.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>This product is miscible in water. Should not be released into the environment.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p>
Environmental precautions	<p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p> <p>Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.</p>

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
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Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Propylene glycol monomethyl ether (CAS 107-98-2)	STEL	100 ppm
	TWA	50 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Propylene glycol monomethyl ether (CAS 107-98-2)	STEL	540 mg/m3
	TWA	150 ppm
		360 mg/m3
		100 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

Propylene glycol monomethyl ether (CAS 107-98-2) Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical splash goggles where there is a potential for eye contact.

Skin protection

Hand protection Not normally needed. For prolonged or repeated skin contact use suitable protective gloves.

Other Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection Not normally required with adequate ventilation.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear, colorless liquid
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Non-objectional odor
Odor threshold	Not available
pH	1 - 2
Melting point/freezing point	Not applicable / Not available
Initial boiling point and boiling range	218 °F (103.33 °C)
Flash point	> 218.0 °F (> 103.3 °C)
Evaporation rate	< 1 (ethyl ether = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.

Explosive limit - upper (%)	Not available.
Vapor pressure	17.5 mm Hg
Vapor density	0.6 Air =1
Relative density	1 at 77°F
Solubility(ies)	
Solubility (water)	Complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	8.34 lb/gal
Percent volatile	> 98.5 %
VOC (Weight %)	0.9 %

10. Stability and reactivity

Reactivity	Reacts violently with strong alkaline substances. This product may react with reducing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Bases. Reducing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
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Information on toxicological effects

Acute toxicity

Product	Species	Test Results
CARPET DEBROWNER II		
Acute		
<i>Oral</i>		
LD50	Rabbit	65432.0977 g/kg estimated
	Rat	70493.8281 g/kg estimated
Components	Species	Test Results
Propylene glycol monomethyl ether (CAS 107-98-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	13 g/kg
<i>Inhalation</i>		
LC50	Guinea pig	15000 mg/l, 10 Hours
	Rat	54.6 mg/l, 4 Hours

Components	Species	Test Results
Oral LD50	Dog	4.6 g/kg
	Mouse	10.8 g/kg
	Rabbit	5.3 g/kg
	Rat	5.71 g/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Product	Species		Test Results
CARPET DEBROWNER II			
Aquatic			
Crustacea	EC50	Daphnia	611.472 mg/l, 48 hours estimated
Fish	LC50	Fish	805.5289 mg/l, 96 hours estimated

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not contaminate ponds, waterways or ditches with chemical or used container. Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Waste from normal product use may be sewered to a public owned treatment works (POTW) in compliance with applicable Federal, State, and local pretreatment requirements. Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning.

14. Transport information**DOT**

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Safe Drinking Water Act (SDWA)**

Not regulated.

US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

Propylene glycol monomethyl ether (CAS 107-98-2)

US. New Jersey Worker and Community Right-to-Know Act

Propylene glycol monomethyl ether (CAS 107-98-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Propylene glycol monomethyl ether (CAS 107-98-2)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-12-2015

Revision date 03-04-2016

Version # 02

HMIS® ratings Health: 2
Flammability: 0
Physical hazard: 0

Disclaimer No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

Revision Information Physical & Chemical Properties: Multiple Properties
Physical and chemical properties: Appearance
Physical and chemical properties: Color
Physical and chemical properties: Odor
Toxicological Information: Toxicological Data
GHS: Classification

MATERIAL SAFETY DATA SHEET

NFPA RATING: Health = 0 Flammability = 0 Reactivity = 0

HMIS RATING: Health = 0 Flammability = 0 Reactivity = 0

***SECTION I – IDENTITY AND MANUFACTURER'S INFORMATION** *(545N-76A)

Manufacturer's Name: HILLYARD INDUSTRIES

Product Name: CARPET SPOTTER

Address: 302 North Fourth Street
St. Joseph, MO 64501

***Date Prepared:** June 26, 2009 (version 2)

Prepared by: Regulatory Affairs Department

Emergency Telephone No.: (800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)

Other information calls: (816) 233-1321 (Ext. 8285)

<http://www.hillyard.com>

SECTION II – INGREDIENTS/IDENTITY INFORMATION

Components

(Specific Chemical Identity:

Common Name(s)	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Water	7732-18-5	none	none	N/A	---
Propylene Glycol N-Propyl Ether	1569-01-3	not established	not established	N/A	---
VOC = 3%					

***SECTION III – PHYSICAL / CHEMICAL CHARACTERISTICS**

Boiling Point: 212°F	Specific Gravity (H₂O = 1): 25°C = 1.001	*Density = 8.34 lb/gal
Vapor Pressure (mm Hg.): 17.4	Percent Volatile by Volume (%): 99	
Vapor Density (AIR = 1): 0.7	Evaporation Rate (ethyl ether = 1): slower than 1	
Solubility in Water: appreciable	Appearance and Odor: off-white semi-transparent liquid;	
*pH = 9.0-10.0	non-objectionable odor	

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flash point: None (T.C.C.) **Flammable Limits:** LEL = N/A UEL = N/A
Extinguishing Media: Water, carbon dioxide or foam
Special Fire Fighting Procedures: N/A
Unusual Fire and Explosion Hazards: N/A

SECTION V – PHYSICAL HAZARDS

Stability: Stable **Conditions to Avoid:** N/A
Incompatibility (Materials to Avoid): Avoid strong oxidizing agents or strong mineral acids and cationic products.
Hazardous Decomposition Products or Byproducts: Decomposition products under fire conditions: carbon monoxide, carbon dioxide, oxides of nitrogen.
Hazardous Polymerization: Will not occur **Conditions to Avoid:** N/A

SECTION VI – HEALTH HAZARD DATA

Routes of entry: Inhalation? No Skin? No Ingestion? No

HEALTH HAZARDS (1. Acute and 2. Chronic)

- Based on product testing, not an eye or skin irritant per FHSA, CFR 16, chapter IIc, paragraph 1500.41 and 1500.42. Per acute oral toxicity testing: 0 mortality at 5 g/kg.; acute inhalation (1 hr) toxicity limit test = 0 mortality at 23.9 mg/l actual concentration (nominal concentration of 47.4 mg./L.).
- None known to Hillyard Industries.

SECTION VI – HEALTH HAZARD DATA cont.

Chemical listed as Carcinogen or Potential Carcinogen:

National Toxicology Program = No I.A.R.C. Monographs = No OSHA = No

This product has no carcinogens listed by IARC, NTP, NIOSH, or ACGIH as of this date, greater than or equal to 0.1%.

Signs and Symptoms of Exposure: None known to Hillyard Industries.

Medical Conditions Generally Aggravated by Exposure: None known to Hillyard Industries.

Emergency and First Aid Procedures: In case of contact, immediately flush eyes with plenty of water.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: Pick up with mop or wet vac and wash away with water. Spills of concentrate should be picked up with wet vac and rinsed thoroughly.

Waste Disposal Method: Wash down to public owned treatment works (POTW) sewer with large quantity of water in compliance with applicable federal, state and local regulations. Container disposal: Triple rinse (or equivalent) then offer clean, dry container for recycling or reconditioning.

Precautions To Be Taken In Handling And Storing: Freezing of product may rupture container. Product shelf life is best retained by storage at 45-100°F temperature.

Other Precautions: This product contains no reportable quantities of toxic chemicals subject to reporting requirements of Section 313 of SARA Title III Emergency Planning and Community Right to Know Act of 1986 and of CFR Part 372.

SECTION VIII – CONTROL MEASURES

Respiratory Protection (Specify Type): Not required

Ventilation:

Local Exhaust = Not required **Mechanical (General) =** N/A **Special =** N/A **Other =** N/A

Protective Gloves: None required **Eye Protection:** None required

Other Protective Clothing or Equipment: None required

Work / Hygienic Practices: Wash thoroughly after handling.

SECTION IX - TRANSPORTATION INFORMATION

Applicable regulations: DOT = No; IMCO = No; IATA = No

Proper shipping name: Cleaning compound

UN No.: not applicable **Limited Qty.:** not applicable **Hazard Class:** not applicable

Labels required: not required **DOT Exception:** not applicable

EPA Hazardous waste/number code: not listed

Hazardous waste characteristics:

Ignitability = not applicable; **Corrosivity =** not applicable; **Reactivity =** not applicable

DISCLAIMER OF WARRANTIES

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY NATURE ARE MADE WITH RESPECT TO THE PRODUCT(S) OR INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET.

The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate.

THE BUYER OR USER ASSUMES ALL RISKS ASSOCIATED WITH THE USE, MISUSE OR DISPOSAL OF THIS PRODUCT. THE BUYER OR USER IS RESPONSIBLE TO COMPLY WITH ALL FEDERAL, STATE OR LOCAL REGULATIONS CONCERNING THE USE, MISUSE OR DISPOSAL OF THESE PRODUCTS.

MATERIAL SAFETY DATA SHEET**NFPA RATING:** Health = 1 Flammability = 0 Reactivity = 0**HMIS RATING:** Health = 1 Flammability = 0 Reactivity = 0***SECTION I -- IDENTITY AND MANUFACTURER'S INFORMATION** *(545N-22A)**Manufacturer's Name:** HILLYARD INDUSTRIES**Product Name:** CLEAN ACTION II**Address:** 302 North Fourth Street**Date Prepared:** June 3, 2009 (Version 3)

St. Joseph, MO 64501

Prepared by: Regulatory Affairs Department**Emergency Telephone No.:** (800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)**Other information calls:** (816) 233-1321 (Ext. 8285)<http://www.hillyard.com>***SECTION II -- INGREDIENTS/IDENTITY INFORMATION****Components****(Specific Chemical Identity:**

Common Name(s)	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Water	7732-18-5	none	none	N/A	---
Propylene Glycol N-Propyl Ether	1569-01-3	not established	not established	N/A	---
Sodium Lauryl Sulfate	151-21-3	not established	not established	N/A	---
*Alcohols (C ₁₂ -C ₁₅) Ethoxylate	68131-39-5	not established	not established	N/A	---

VOC** = 5%; or when diluted 1 oz./gallon = 0.04%SECTION III -- PHYSICAL / CHEMICAL CHARACTERISTICS**

Boiling Point: 216°F	Specific Gravity (H₂O = 1): 25°C = 1.00	*Density 8.34 lb/gl
Vapor Pressure (mm Hg.): 17.4	Percent Volatile by Volume (%): 96.4%	
Vapor Density (AIR = 1): 0.8	Evaporation Rate (ethyl ether = 1): slower than 1	
Solubility in Water: complete	Appearance and Odor: white liquid, fresh floral fragrance	
*pH (concentrate) = 9 – 10		

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA**Flash point:** None (T.C.C.) **Flammable Limits:** LEL = N/A UEL = N/A**Extinguishing Media:** N/A**Special Fire Fighting Procedures:** None**Unusual Fire and Explosion Hazards:** None**SECTION V -- PHYSICAL HAZARDS****Stability:** Stable **Conditions to Avoid:** N/A**Incompatibility (Materials to Avoid):** None known**Hazardous Decomposition Products or Byproducts:** None known**Hazardous Polymerization:** Will not occur **Conditions to Avoid:** N/A**SECTION VI -- HEALTH HAZARD DATA****Routes of entry:** Inhalation? No Skin? No Ingestion? No**HEALTH HAZARDS (1. Acute and 2. Chronic)**

1. Not a primary skin irritant per Federal Hazardous Substance Act. Prolonged contact with skin may cause slight irritation. Is a Primary eye irritant per the Federal Hazardous Substance Act. Concentrate not acutely toxic orally at 5 g/kg. Prolonged overexposure to dry residue may cause nose and throat irritation. A single brief (minutes) inhalation exposure is not likely to cause adverse effects. Not acutely toxic at 46.7 mg./L. (actual concentration = 46.7 mg./L.) Prolonged overexposure by inhalation may have anesthetic or narcotic effects. Notice: Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. 2. None known by Hillyard Industries.

SECTION VI -- HEALTH HAZARD DATA continued.

Chemical listed as Carcinogen or Potential Carcinogen:

National Toxicology Program = No **I.A.R.C. Monographs** = No **OSHA** = No

This product has no carcinogens listed by IARC, NTP, NIOSH, or ACGIH as of this date, greater than or equal to 0.1%.

Signs and Symptoms of Exposure: Overexposure may cause drowsiness, headache and uncoordination.

Medical Conditions Generally Aggravated by Exposure: Respiratory tract irritations may be aggravated by nuisance dust from excess dried solids.

Emergency and First Aid Procedures: If swallowed, get medical attention. In case of contact, immediately flush eyes or skin with plenty of water for 15 minutes. If skin irritation persists, get medical attention. Inhalation - If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: Large spill: Absorb with an inert material such as sand, earth or vermiculite. Small spill: Pick up with wet vac or mop.

Waste Disposal Method: Dispose of waste in accordance with state and local regulations. Container disposal: Triple rinse (or equivalent), then offer clean, dry container for recycling or reconditioning.

Precautions To Be Taken In Handling And Storing: Prevent product from entering drinking water supplies or streams.

Other Precautions: This product contains no reportable quantities of toxic chemicals subject to reporting requirements of Section 313 of SARA Title III Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR Part 372.

SECTION VIII -- CONTROL MEASURES

Respiratory Protection (Specify Type): None required when used per label directions.

Ventilation:

Local Exhaust = Not necessary **Mechanical (General)** = Recommended **Special** = N/A **Other** = N/A

Protective Gloves: Not necessary **Eye Protection:** Not necessary

Other Protective Clothing or Equipment: Wear trousers and long sleeved shirt.

Work / Hygienic Practices: Wash thoroughly after handling.

SECTION IX -- TRANSPORTATION INFORMATION

Applicable regulations: 49 CFR = no; IMCO = no; IATA = no.

Proper shipping name: Cleaning compound

UN No.: not applicable **Limited Qty.:** not applicable **Hazard Class** = not applicable

Labels required: not required **DOT Exception:** not applicable

EPA Hazardous waste number / code: not listed

Hazardous waste characteristics:

Ignitability = not applicable; **Corrosivity** = not applicable; **Reactivity** = not applicable

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Version 3, * Denotes revisions since last published MSDS. Supersedes Version 2 May 21, 2009.

MATERIAL SAFETY DATA SHEET

NFPA RATING: Health = 0 Flammability = 0 Reactivity = 0

HMIS RATING: Health = /0 Flammability = 0 Reactivity = 0

SECTION I -- IDENTITY AND MANUFACTURER'S INFORMATION (538N-36A)

Manufacturer's Name: HILLYARD INDUSTRIES

Product Name: EXTRACTION pH RINSE

Address: 302 North Fourth Street

Date Prepared: August 24, 2007

St. Joseph, MO 64501

Prepared by: Regulatory Affairs Department

Emergency Telephone No.: (800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)

Other information calls: (816) 233-1321 (Ext. 8285)

<http://www.hillyard.com>

SECTION II -- INGREDIENTS/IDENTITY INFORMATION**Components**

(Specific Chemical Identity:

Common Name(s)	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Water	7732-18-5	N/A	N/A	N/A	---
Anionic Polymer	N.J. Trade Secret Registry #58- 2380661-5019	N/A	N/A	N/A	---

VOC = 0% (concentrate)

SECTION III -- PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: 202°F	Specific Gravity (H₂O = 1): 25°C = 1.01 & 39°C = 1.01
Vapor Pressure (mm Hg.): 17.6	Percent Volatile by Volume (%): 96
Vapor Density (AIR = 1): 0.6	Evaporation Rate (ethyl ether = 1): slower than 1
Solubility in Water: complete	Appearance and Odor: Clear, colorless liquid; non-objectionable odor
PH (concentrate): 2.6	

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

Flash point: None (T.C.C.)	Flammable Limits: LEL = N/A UEL = N/A
Extinguishing Media: N/A	
Special Fire Fighting Procedures: None	
Unusual Fire and Explosion Hazards: None	

SECTION V -- PHYSICAL HAZARDS

Stability: Stable	Conditions to Avoid: N/A
Incompatibility (Materials to Avoid): None known	
Hazardous Decomposition Products or Byproducts: Oxides of carbon and sulfur may be formed during thermal decomposition.	
Hazardous Polymerization: Will not occur	Conditions to Avoid: N/A

SECTION VI -- HEALTH HAZARD DATA

Routes of entry: Inhalation? No Skin? No Ingestion? No

HEALTH HAZARDS (1. Acute and 2. Chronic)

1. Test showed that per the Federal Hazardous Substance Act this concentrated product was not considered to be a primary skin irritant nor a primary eye irritant; however, the concentrate might induce slight irritation in some sensitive individuals. The product was not orally toxic at 5 g/kg when tested and it was not toxic by inhalation at 212 mg./liter when tested according to the U.S. Federal Hazardous Substance Act Regulations. 2. None known

SECTION VI -- HEALTH HAZARD DATA continued

Chemical listed as Carcinogen or Potential Carcinogen:

National Toxicology Program = No **I.A.R.C. Monographs =** No **OSHA =** No

This product has no carcinogens listed by IARC, NTP, NIOSH, or ACGIH as of this date, greater than or equal to 0.1%.

Signs and Symptoms of Exposure: None known

Medical Conditions Generally Aggravated by Exposure: None known

Emergency and First Aid Procedures: N/A

SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: Pick up with mop or wet vac and wash away with water.

Waste Disposal Method: If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined by under the U.S. EPA Resource Conservation and Recovery Act (RCRA) 40CFR261. Large spills should be picked up with wet vac or absorbent material and incineration. Dispose of liquid per local, state and federal regulations.

Precautions To Be Taken In Handling And Storing: Freezing of product may rupture container. Product shelf life is best retained by storage at 45-100°F temperatures.

Other Precautions . This product contains no reportable quantities of toxic chemicals subject to reporting requirements of Section 313 of SARA Title III Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR Part 372.

SECTION VIII -- CONTROL MEASURES

Respiratory Protection (Specify Type): None required

Ventilation: N/A

Local Exhaust = N/A **Mechanical (General) =** N/A **Special =** N/A **Other =** N/A

Protective Gloves: None required

Eye Protection: N/A

Other Protective Clothing or Equipment: None required

Work / Hygienic Practices: Rinse concentrated Neutralizer off skin and clothing with water.

SECTION IX -- TRANSPORTATION INFORMATION

Applicable regulations: 49 CFR = no; IMCO = no; IATA = no

Proper shipping name: Cleaning compound

UN No.: not applicable **Limited Qty.:** not applicable **Hazard Class:** not applicable

Labels required: not required **DOT Exception:** not applicable

EPA Hazardous waste number / code: not listed

Hazardous waste characteristics:

Ignitability = not applicable; **Corrosivity =** not applicable; **Reactivity =** not applicable

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Material Safety Data Sheet



1. Chemical product and company identification

Product name	CASTROL PYROPLEX RED EP 1
MSDS #	464254
Code	464254-US10
Product use	Grease For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	BP Lubricants USA Inc. 1500 Valley Road Wayne, NJ 07470 Telephone: (973) 633-2200 Telecopier: (973) 633-7475
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Composition/information on ingredients

Ingredient name	CAS #	% by weight
Base oil - highly refined	Mixture	85 - 90
carbonic acid, calcium salt (1:1)	471-34-1	1 - 5
Zinc alkyl dithiophosphate	68649-42-3	1 - 5

3. Hazards identification

Physical state	Grease
Color	Red.
Emergency overview	WARNING! CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION. Avoid contact with eyes, skin and clothing. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Routes of entry	Dermal contact. Eye contact. Inhalation. Ingestion.
Potential health effects	
Eyes	Causes eye irritation. Also possible risk of irreversible effects.
Skin	May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. High pressure skin injections are serious medical emergencies. Injury will not appear serious at first; within a few hours, tissue will become swollen, discolored and extremely painful.

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(ENGLISH)

Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.
Medical conditions aggravated by over-exposure	None identified.
See toxicological Information (section 11).	

4. First aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops. Accidental high pressure injection through the skin requires immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear. If large quantities of this material are swallowed, call a physician immediately.

5. Fire-fighting measures

Flammability of the product	May be combustible at high temperature.
Flash point	204 °C (Open cup) Cleveland.
Products of combustion	These products are carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide), sulfur oxides (SO ₂ , SO ₃ etc.), phosphates. Some metallic oxides.
Unusual fire/explosion hazards	This material is not explosive as defined by established regulatory criteria.
Fire-fighting media and instructions	In case of fire, use water spray (fog), foam or dry chemicals. Do not use water jet.
Protective clothing (fire)	Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").
Environmental precautions and clean-up methods	If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways. See Section 13 for Waste Disposal Information.
Personal protection in case of a large spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

7. Handling and storage

Handling	Avoid contact with skin and clothing. Avoid contact with eyes. Use only with adequate ventilation. Wash thoroughly after handling.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Empty containers may contain harmful, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.

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8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name

Base oil - highly refined

Occupational exposure limits

ACGIH (United States).

STEL: 10 mg/m³ 15 minute(s). Form: Oil mist, mineral

TWA: 5 mg/m³ 8 hour(s). Form: Oil mist, mineral

OSHA (United States).

TWA: 5 mg/m³ 8 hour(s). Form: Oil mist, mineral

ACGIH TLV (United States, 1/2006).

TWA: 10 mg/m³ 8 hour(s).

OSHA PEL (United States, 8/1997).

TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction

TWA: 15 mg/m³ 8 hour(s). Form: Total dust

carbonic acid, calcium salt (1:1)

Zinc alkyl dithiophosphate

None assigned.

Control Measures

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the work-station location.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Personal protection

Eyes

Avoid contact with eyes. Chemical splash goggles.

Skin and body

Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory

Use only with adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands

Wear gloves that cannot be penetrated by chemicals or oil.

Recommended: nitrile gloves

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or S.O.P. for special handling directions

Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

Physical state

Grease

Odor

Petroleum

Color

Red.

Heat of combustion

Not available.

Drop Point

261 °C

Penetration Number (0.1 mm)

314 at 25°C

Specific gravity

0.91

Solubility

Insoluble in cold water.

Product name CASTROL PYROPLEX RED EP 1

Product code 464254-US10

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(ENGLISH)

10. Stability and reactivity

Stability and reactivity	The product is stable.
Conditions to avoid	Keep away from heat, sparks and flame.
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Products of combustion: carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide), sulfur oxides (SO ₂ , SO ₃ etc.), phosphates. Some metallic oxides.
Hazardous polymerization	Will not occur.

11. Toxicological information

Chronic toxicity

Carcinogenic effects	No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).
Mutagenic effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.
Reproductive effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.
Teratogenic effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

12. Ecological information

Ecotoxicity	No testing has been performed by the manufacturer.
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13. Disposal considerations

Waste information	Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of in accordance with all applicable local and national regulations.
-------------------	---

Consult your local or regional authorities.

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

U.S. Federal regulations	US INVENTORY (TSCA): In compliance.
	This product is not regulated under Section 302 of SARA and 40 CFR Part 355.
	SARA 311/312 MSDS distribution - chemical inventory - hazard identification: CASTROL PYROPLEX RED EP 1: Immediate (Acute) Health Hazard

SARA 313

Product name	CASTROL PYROPLEX RED EP 1	Product code	464254-US10	Page: 4/5
Version	1	Date of issue	09/13/2006.	Format US
				Language ENGLISH.
			Build 4.2.8	(ENGLISH)

Form R - Reporting requirements	Product name	CAS number	Concentration
Supplier notification	Zinc alkyl dithiophosphate	68649-42-3	1.2325
State regulations	Zinc alkyl dithiophosphate CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):: Zinc alkyl dithiophosphate; Cadmium: 10 lbs. (4.536 kg); lead: 10 lbs. (4.536 kg); xylene: 100 lbs. (45.36 kg); Ethylbenzene: 1000 lbs. (453.6 kg); New Jersey: Zinc alkyl dithiophosphate Pennsylvania RTK: Zinc alkyl dithiophosphate (environmental hazard, generic environmental hazard) WARNING: This product contains a chemical known to the State of California to cause cancer. Ethylbenzene WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. lead; Cadmium		
Inventories	AUSTRALIAN INVENTORY (AICS): Not determined. CANADA INVENTORY (DSL): In compliance. CHINA INVENTORY (IECS): Not determined. EC INVENTORY (EINECS/ELINCS): In compliance. JAPAN INVENTORY (ENCS): Not listed. KOREA INVENTORY (ECL): Not determined. PHILIPPINE INVENTORY (PICCS): Not determined.		

16. Other information

Label requirements	WARNING! CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION.		
HMIS® Rating :	Health 2 - Flammability 1 Physical Hazard 0 Personal protection X	National Fire Protection Association (U.S.A.)	



History

Date of issue	09/13/2006.
Date of previous issue	No Previous Validation.
Prepared by	Product Stewardship
Notice to reader	

NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.

Product name	CASTROL PYROPLEX RED EP 1	Product code	464254-US10	Page: 5/5
Version 1	Date of issue 09/13/2006.	Format US	Language ENGLISH.	
		Build 4.2.8	(ENGLISH)	

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: SAF T BOND C5 ACRYLIC LATEX COVE BASE ADHESIVE
PRODUCT CODE: CB 005

HMS CODES H F R P
1 0 0 B

SECTION I – MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: ROBERTS CAPITOL, INC.
ADDRESS: 300 CROSS PLAINS BLVD., DALTON, GA 30721
EMERGENCY PHONE: (800)424-9300 (CHEMTREC)
DATE REVISED: 02/18/09

INFORMATION PHONE: (706)277-5294
NAME OF PREPARER: M. KING

SECTION II – HAZARDOUS INGREDIENTS/SARA 111 INFORMATION

NO REPORTABLE QUANTITIES OF HAZARDOUS INGREDIENTS ARE PRESENT PER OSHA REGULATIONS: 29 CFR 1910-1200.
NO TOXIC CHEMICAL(S) SUBJECT TO REPORTING REQUIREMENTS OF SECTION 313 OF TITLE 111 AND OF 40 CFR 372 ARE PRESENT.

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 212F
VAPOR DENSITY (AIR=1): HEAVIER THAN AIR
COATING V.O.C.: 0 G/L (CALCULATED)
SOLUBILITY IN WATER: MISCIBLE IN WATER
APPEARANCE AND ODOR: BEIGE, HEAVY PASTE WITH MILD ODOR
SPECIFIC GRAVITY (H2O=1): 1.4 G/L
EVAPORATION RATE: SAME AS WATER
PH: 9.0 – 10.0

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A
FLAMMABLE LIMITS IN AIR BY VOLUME: N/A
EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL, WATER SPRAY
SPECIFIC FIREFIGHTING PROCEDURES: WEAR SELF CONTAINED BREATHING APPARATUS
UNUSUAL FIRE AND EXPLOSION HAZARDS:
METHOD USED: N/A
LOWER: N/A UPPER: N/A

SECTION V – REACTIVITY DATA

STABILITY: STABLE
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: COMBUSTION PRODUCTS: OXIDES OF CARBON, NITROGEN & SULFUR, WATER, ORGANIC COMPOUNDS OF UNKNOWN STRUCTURE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: EXCESSIVE HEAT

SECTION VI – HEALTH HAZARD DATA

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: NORMALLY NONE: MAY CAUSE SLIGHT IRRITATION OF RESPIRATORY TRACT.
SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE: CONTACT WITH SKIN & EYES MAY RESULT IN SLIGHT IRRITATION.
SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: NONE KNOWN.
INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: POTENTIAL G.I. BLOCKAGE. NOT A LIKELY ROUTE OF ENTRY UNDER NORMAL HANDLING CONDITIONS.
HEALTH HAZARDS (ACUTE/CHRONIC): ACUTE: MAY CAUSE MILD SKIN IRRITATION
CHRONIC: NONE KNOWN

CARCINOGENITY: NTP? NO

IARC MONOGRAPHS: NO
OSHA REGULATED: NO

THIS PRODUCT CONTAINS NO CARCINOGENS AS LISTED BY NTP, IARC, AND OSHA.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: PRE-EXISTING SKIN DISORDERS

EMERGENCY AND FIRST AID PROCEDURES:

EYES: FLUSH WITH LARGE AMOUNTS OF WATER. CONSULT PHYSICIAN IF IRRITATION DEVELOPS.

SKIN: WASH WITH SOAP & WATER. CONSULT PHYSICIAN IF IRRITATION DEVELOPS.

INGESTION: DO NOT INDUCE VOMITING. IF VICTIM IS CONSCIOUS, DILUTE WITH WATER. CONTACT PHYSICIAN IMMEDIATELY.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: CONTAIN SPILL BY DIKING TO PREVENT SPREADING. USE ABSORBENT MATERIAL TO COLLECT & CONTAIN FOR SALVAGE OR DISPOSAL.

WASTE DISPOSAL METHOD: DISCARDED SPILL RESIDUE MAY BE INCINERATED. DO NOT INCINERATE SEALED CONTAINERS. DISPOSE ACCORDING TO FEDERAL, STATE AND LOCAL REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: KEEP CONTAINERS FROM EXCESSIVE HEAT AND FREEZING. KEEP CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE. KEEP OUT OF REACH OF CHILDREN. PROTECT AGAINST PHYSICAL DAMAGE.
STORE IN A COOL, DRY PLACE (50F – 90F)

OTHER PRECAUTIONS: NONE

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION: NONE SHOULD BE REQUIRED.

PROTECTIVE GLOVES: RUBBER GLOVES

VENTILATION: USE LOCAL EXHAUST. DO NOT USE CLOSED CIRCULATING SYSTEM. OPEN DOORS & WINDOWS IF NECESSARY.

EYE PROTECTION: GOGGLES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: NONE

WORK/HYGIENE PRACTICES: STANDARD HYGIENE AND SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY ACCEPTABLE.

SECTION IX – REGULATORY INFORMATION

HAZARDOUS WASTE 40CFR261: NO

HAZARDOUS WASTE NUMBER:

HAZARDOUS SUBSTANCE SUPERFUND: NO

RQ (LBS)

ALL COMPONENTS ARE IN TSCA INVENTORY

SECTION X – SHIPPING DATA

D.O.T. PROPER SHIPPING NAME (49CFR172.101+102): ADHESIVES

HAZARDOUS SUBSTANCE (49CFR CERCLA LIST): NONE

RQ: N/A

D.O.T. HAZARD CLASSIFICATION (49CFR172.101-102)

PRIMARY: NONE

SECONDARY: NONE

D.O.T. LABELS REQUIRED (49CFR172.101-102): NONE

D.O.T. PLACKARDS REQUIRED (49CFR172.504): NONE

BILL OF LADING DESCRIPTION:ADHESIVE, NOS

UN/NA CODE: N/A

SECTION IX – DISCLAIMER

DISCLAIMER: THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE, BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. EACH USER SHOULD REVIEW AND DETERMINE FOR THEMSELVES, THE APPLICABILITY OF THE INFORMATION IN THE SPECIFIC CONTEXT OF THE INTENDED USE.

KEEP OUT OF REACH OF CHILDREN

MANUFACTURED BY: ROBERTS CAPITOL, INC./QEP

MATERIAL SAFETY DATA SHEET
COMPLIES WITH OSHA'S HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)

SECTION I - PRODUCT IDENTIFICATION

Product Name: CBT CHALKBOARD CLEANER
Product Number: 1020
Product Type: AEROSOL
Supplier's Name: American Industrial Supply Inc.
Supplier's Address: 8714 Darby Avenue Northridge, CA 91325
D.O.T. Hazard Class: CONSUMER COMMODITY - ORM-D

Formula: Proprietary
Date Prepared: 08/03/95
Emergency Phone: (800) 255-3924
Information Phone: (818) 841-7788

HMIS Rating (Based on Aerosol Conc.):
0-Minimal 1- Slight 2- Moderate
3- Serious 4- Extreme
HEALTH: 1 **FIRE:** 2 **REACTIVITY:** 0
Personal Protection : B

SECTION II - INGREDIENTS

CHEMICAL NAME	CAS #	%WT	313/Chem	Skin	Carcinogen	PEL	TWA/TLV
Food Grade Mineral Oil	8042-47-5	40-60	NO	NO	NO	5mg/ M³	5mg/ M³
Isoparaffinic Hydrocarbon	64741-66-8	20-40	NO	NO	NO	400ppm	400ppm
Isoparaffinic Hydrocarbon	64742-48-7	10-20	NO	NO	NO	200ppm	200ppm
Carbon Dioxide Propellant	124-38-9	01-05	NO	NO	NO	10,000ppm	10,000ppm

SECTION III - PHYSICAL DATA

Data Below Based On Aerosol Concentrate Only:
Boiling Point: ~ 300° F
pH: N/A
Solubility In Water: Emulsifies
Appearance/Odor: Cloudy Liquid, Solvent Odor

Vapor Density(Air=1): >1
Specific Gravity (H₂O=1)@75°F: 0.817

Data Below Based On Total Contents:
Vapor Pressure of can (psig @70°F): 90
Total VOC %: ~ 17%

SECTION IV - FIRE AND EXPLOSION DATA

Flash Point (of Concentrate Only): 120°F (T.O.C.)
Extinguishing Media: Foam, CO₂, Dry Media

Flammability (as per USA Flame Projection Test): Flammable Spray

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Cool fire exposed containers to prevent rupturing.
Unusual Fire and Explosion Hazards: Exposure to temperature above 120° F may cause bursting.

SECTION V - REACTIVITY DATA

Stability: Material Stable.

Hazardous Polymerization: Will not Occur.

Incompatibility: Avoid contact with strong oxidizing agents,
Hazardous Decomposition Products: Carbon Dioxide, Carbon Monoxide

SECTION VI - STORAGE AND HANDLING

KEEP OUT OF REACH OF CHILDREN.
For Industrial and Institutional use only.
Store in a cool, dry area away from heat or open flame.
Do not store at temperatures above 120° F.

NFPA Code 30B Rating: Level 1 Aerosol.

SECTION VII - HEALTH AND FIRST AID

PRIMARY ROUTES OF ENTRY & EFFECTS OF OVER EXPOSURE:
Eyes: May cause slight irritation but does not injure eye tissue.
Skin: Frequent or prolonged contact may cause irritation.
Inhalation: Inhalation of mist can cause irritation of nasal and respiratory passages. Abusive or excessive inhalation may cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects.
Ingestion: Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.

FIRST AID PROCEDURES:
Eyes: Flush with large amounts of cool running water for at least 15 minutes while holding upper and lower lids open. If irritation persists get medical attention immediately.
Skin: Wash with soap and water. If irritation persists seek medical attention.
Inhalation: Remove to fresh air. Seek medical attention immediately. If breathing stops give artificial respiration.
Ingestion: Do not induce vomiting. Seek medical attention immediately.

SECTION VIII - SPECIAL PROTECTION DATA

Respiratory Protection: None needed for proper use in accordance with label directions.
Ventilation: Provide local exhaust to keep TLV of Section II ingredients below acceptable limits.
Protective Gloves: None needed for proper use in accordance with label directions. Use chemical resistant gloves if hand contact will be made.
Eye Protection: None needed unless it is anticipated that a splash or spray back will occur, then wear safety glasses or chemical proof goggles.

SECTION IX - SPILL OR LEAK PROTECTION

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK: Allow propellant to evaporate. Maintain local exhaust and adequate ventilation. No smoking. Keep sparks, heat sources and open flame far away from spill or leak. Cover with absorbent material and sweep up. Wash area to prevent slipping. Dispose of soaked absorbent material in accordance with Federal, State and local laws.
WASTE DISPOSAL METHOD: Aerosol cans, when emptied and depressurized through normal use, pose no disposal hazard and should be recycled. Consult Federal, State and local authorities for approved procedures.

N/A= NOT APPLICABLE · NE=NOT ESTABLISHED · N/D=NOT DETERMINED · <=LESS THAN · >=MORE THAN

NOTICE: The information contained on this Material Safety Data Sheet is considered accurate as of the date of publication. It is not necessarily all inclusive nor fully adequate in every circumstances. The suggestions should not be confused with, nor followed in violation of applicable laws, regulations, rules or insurance requirements. No warranty, express or implied, of merchantability, fitness, accuracy of data, or the results to be obtained from the use thereof is made. The vendor assumes no responsibility for injury or damages resulting from the inappropriate use of this product.

5741-xx
5743-xx ✓MATERIAL SAFETY DATA SHEET
(MSDS)33106-1005
CELLUCLAY - 1006
- 1024

SECTION I

EMERGENCY TELEPHONE NO.

TRADE NAME
(If None, Put Chemical) CELLUCLAY

(617) 583-0025 (DAY)

CHEMICAL NAME
AND SYNONYMS NAMANUFACTURER'S NAME
AND TELEPHONE NO. Activa Products

(617) 583-0025

ADDRESS (Number, Street
City, State, Zip Code)

P.O. Box 1472

Westford

MA 01886

SECTION II - HAZARDOUS INGREDIENTS

%

TLV

PEL

UNITS

Product consists of:

Gypsum

Starch

Printed clay coat sulfite paper

-(as Cellulose (paper fiber))

Perlite

Sodium benzoate

100

10*

15*

MG/M3

10*

15*

MG/M3

10*

15*

MG/M3

**

50

MPPCF

NE

NE

*TLV and PEL are as nuisance particulate,
total dust.

**TLV-10 mg/m3

SECTION III - PHYSICAL DATA

BOILING POINT (°F)

NA

SPECIFIC GRAVITY (H₂O=1)

>60

VAPOR PRESSURE (MM Hg.)

NA

PERCENT VOLATILE
BY VOLUME (%)

NA

VAPOR DENSITY (AIR=1)

NA

pH

NA

SOLUBILITY IN WATER

Appreciable

EVAPORATION RATE

NA

APPEARANCE AND ODOR

Greyish powder; odorless

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)

NONE

FLAMMABLE LIMITS

LEL

NE

UEL

NE

EXTINGUISHING MEDIA

Water

SPECIAL FIRE

FIGHTING PROCEDURES No special procedures required.

UNUSUAL FIRE AND

EXPLOSION HAZARDS Dust clouds will present a fire hazard when exposed to heat or flame.

NA - Not Applicable

NE - Not Established

UN - Unavailable

Item Numbers: 33106-1005, 33106-1006, 33106-1024

V-45

SECTION V - HEALTH HAZARD INFORMATION

SYMPTOMS/EFFECTS OF OVEREXPOSURE Inhalation of dust may cause respiratory irritation. Prolonged contact may cause mild skin irritation in sensitive individuals. Eye contact causes irritation.

FIRST AID

EYES Flush eyes with large amounts of water. Get medical attention if irritation persists.

SKIN Wash thoroughly with soap and water. Get medical attention if irritation persists.

INHALATION Move victim to fresh air. Get medical help if irritation persists.

INGESTION Contact local poison control center or physician IMMEDIATELY!

SECTION VI - REACTIVITY DATA

STABILITY Normally Stable.

Avoid heat, open flame

INCOMPATIBLE MATERIALS Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS Combustion may produce Carbon monoxide, Carbon dioxide, Sulfur dioxide

SECTION VII - SPILL OR LEAK PROCEDURES

PROCEDURES Carefully clean up spilled material and place in dry containers for reuse or disposal. Avoid excessive dust generation.

WASTE DISPOSAL METHOD Dispose of in accordance with Local, State, and Federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY Not normally required. If TLV is exceeded, or for symptoms of overexposure, wear a NIOSH-approved dust/mist respirator.

EYEWEAR If potential for eye contact exists, wear chemical goggles.

CLOTHING/GLOVES Not normally required.

VENTILATION Local exhaust may be necessary under some handling/use conditions. Specific needs should be addressed by supervisory or health/safety personnel.

SECTION IX - SPECIAL PRECAUTIONS

Store in dry area. This product does not contain any carcinogens (at 0.1% or greater) as defined by IARC, NTP, or OSHA.

APPROVAL

NAME

TITLE

DATE

The information contained herein has been developed based upon current available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the accuracy of this information to the user's intended purpose or for the consequences of its use or misuse.

Item Numbers: 33106-1005, 33106-1006, 33106-1024



Delta Technical Coatings, Inc.

Material Safety Data Sheet

IDENTITY (As Used on label and List)	<i>Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.</i>
Ceramcoat Acrylic Paint (all colors) -various sized bottles	

SECTION I

Manufacturer's Name	Emergency Telephone Number
Delta Technical Coatings, Inc.	(800) 423-4135
Address	Telephone Number for Information
2550 Pellissier Place	(562) 695-7969
Whittier, California 90601-1505	Date Prepared
	Rev. 1/31/05

SECTION II - Hazardous Ingredients/Identify Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits	% (optional)
None	N/A	N/A	N/A	N/A

SECTION III -Physical/Chemical Characteristics

Boiling Point	N/A	Specific Gravity (H ₂ O = 1)	1.3 - 1.45
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	>1	Evaporation Rate (Butyl Acetate = 1)	<1

Solubility in Water
Dilutable

Appearance and Odor
A viscous colored liquid with a mild acrylic odor.

SECTION IV -Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
N/A	N/A	N/A	N/A

Extinguishing Media
Dry chemical, CO ₂ , water fog

Special Fire Fighting Procedures
N/A

Unusual Fire and Explosion Hazards
None

SECTION V -Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	N/A

Incompatibility (Materials to Avoid)

Strong acids and alkalis.

Hazardous Decomposition or Byproducts

N/A

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	N/A

SECTION VI -Health Hazard Data

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	No	No	No

Health Hazards (Acute and Chronic)

None

Carcinogenicity:	NTP?	IARC Monographs	OSHA Regulated?
	No	No	No

Signs and Symptoms of Exposure

Inhalation: No known signs or symptoms associated with exposure to product.**Skin & Eye: No known signs or symptoms associated with exposure to product. Certified Non-Toxic.****Ingestion: No known signs or symptoms associated with exposure to product.**

Medical Conditions Generally Aggravated by Exposure

N/A

Emergency and First Aid Procedures

Inhalation: Move subject to fresh air. Eye contact: Flush eyes with a large amount of water for at least 15 minutes.**Skin Contact: Wash affected areas thoroughly with soap and water.****Ingestion: If swallowed, give two glasses of water to drink. Consult a physician.****SECTION VII -Precautions for Safe Handling and Use**

Steps To Be Taken in Case Material Is Released or Spilled

Control spill with paper towel. Dried refuse may be disposed of according to local, state and federal regulations.

Waste Disposal Method

Dried refuse may be disposed of according to local, state and federal regulations. Check with local authorities for details on disposal.

Precautions to Be Taken in Handling and Storing

Avoid storing in areas exposed to direct sunlight. Keep from freezing temperatures. Store in a cool, dry place.

Other Precautions

Keep container tightly closed when not in use.

KEEP OUT OF REACH OF CHILDREN.

SECTION VIII -Control MeasuresRespiratory Protection (*Specify Type*)

Ventilation	Local Exhaust	Recommended	Special	None
	Mechanical (<i>General</i>)	May be used.	Other	None

Protective Gloves

Impervious plastic or rubber.

Protective Glasses

Safety glasses may be worn to avoid eye contact.

Other Protective Clothing or Equipment

Long sleeve garments may be worn to avoid contact with skin.

Work/Hygienic Practices

Clean-up with soap and water. Wash hands with soap and water after using product. Close container tightly.

SECTION IX - Disclaimer

Delta Technical Coatings, Inc. Assumes no responsibility for personal injury or property damage to vendees,

users or third parties caused by the product. Such vendees assumes all risks associated with the use of this product.

HMIS SYMBOL

HEALTH	0
FLAMMABILITY	0
REACTIVITY	0

RATING

SEVERE	4
SERIOUS	3
MODERATE	2
SLIGHT	1
MINIMAL	0

Transportation Information:

D.O.T. : Not Regulated

I.A.T.A.: Not Regulated

CERCLA RQ: None

MATERIAL SAFETY DATA SHEET: CERTALEX**DATE OF ISSUE:** 11/12/2003**SUPERCEDES:** 04/21/1999**SECTION I - GENERAL INFORMATION****Chemical Name & Synonyms:**

N/A

Trade Name & Synonyms:

CERTALEX

Chemical Family:

POLYACRYLAMIDE

Formula Mixture: X

Manufacturer's Name:

CERTIFIED LABS, DIV. OF NCH CORP.

Address:

BOX 152170

IRVING, TEXAS 75015

Prepared By:

L Boynton/Chemist

Product Code Number

0174

Emergency Phone Number

800-424-9300

SECTION II - HAZARDOUS INGREDIENTS

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS

Chemical Name (Ingredients)**Hazard TLV PEL STEL CAS #**

NO HAZARDOUS INGREDIENTS PER 29 CFR 1910.1200(D)

SECTION III - PHYSICAL DATA

Boiling Point (f):	220°	Specific Gravity (H2O=1):	1.005
Vapor Pressure (MM HG):	17.41	Color:	LIGHT BLUE
Vapor Density (Air=1):	0.6	Odor:	ODORLESS
PH @ 100% :	7.9	Clarity	TRANSPARENT TO HAZY
% Volatile by Volume:	98	Evaporation Rate (BU A/C=1):	0.6
H2O Solubility:	COMPLETE	Viscosity:	SLIGHT VISCOUS

SECTION IV - FIRE AND EXPLOSION HAZARD

Flash Point:	Flammable Limits:	LEL:	UEL:
>200°F / SETAFASH	N/A	N/A	N/A
Extinguishing Media:			
Foam:X Alcohol Foam:X CO2:X Dry Chemical:X Water Spray:X Other:			

Special Fire Fighting Procedures:

FIREFIGHTERS SHOULD WEAR A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR. EXTINGUISHING MEDIA SHOULD BE CHOSEN BASED ON THE NATURE OF THE SURROUNDING FIRE. COOL FIRE-EXPOSED CONTAINERS WITH WATER SPRAY TO PREVENT BURSTING.

Unusual Fire and Explosion Hazards:

USE CARE AS SPILLS MAY BE SLIPPERY.

NFPA Hazard Rating: (0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme)

Health:1

Flammability:1

Instability:0

Special:

SECTION V - HEALTH HAZARD DATA**Threshold Limit Value:**

NOT ESTABLISHED.

Effects of Overexposure:**-Acute(Short Term Exposure)**

ALTHOUGH THERE ARE NO HAZARDOUS INGREDIENTS IN THIS PRODUCT, AS WITH ANY CHEMICAL, DIRECT CONTACT WITH THE EYES MAY CAUSE IRRITATION.

-Chronic (Long Term Exposure)

NO HUMAN CHRONIC EFFECTS KNOWN. MEDICAL CONDITIONS AGGRAVATED: NONE KNOWN. TARGET ORGANS: NONE KNOWN. THERE IS NO PRIMARY ROUTE OF ENTRY INTO THE BODY. THE PRIMARY ROUTES OF EXPOSURE

ARE SKIN AND EYE CONTACT.

Primary Routes of Entry:

Inhalation:

Ingestion:

Absorption:

Emergency and First Aid Procedures:**-Inhalation:**

REMOVE FROM THE AREA TO FRESH AIR. SEEK MEDICAL ATTENTION IF RESPIRATORY IRRITATION DEVELOPS OR IF BREATHING BECOMES DIFFICULT.

-Eye Contact:

RINSE THE EYES WITH WATER. REMOVE ANY CONTACT LENSES AND CONTINUE FLUSHING WITH PLENTY OF WATER FOR SEVERAL MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS.

-Skin Contact:

WASH AFFECTED AREAS WITH PLENTY OF SOAP AND WATER FOR SEVERAL MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS.

-Ingestion:

GIVE 3 TO 4 GLASSES OF WATER, BUT DO NOT INDUCE VOMITING. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. SEEK MEDICAL ATTENTION IF DISCOMFORT OCCURS.

-Notes to Physician:

THERE IS NO SPECIFIC ANTIDOTE. TREAT THE PATIENT SYMPTOMATICALLY.

SECTION VI - TOXICITY INFORMATION

Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:

IARC: No

NTP: No

OSHA: No

ACGIH: No

OTHER: No

VOC CONTENT: 0% BY WEIGHT; 0% BY VOLUME; 0 G/L

TOX DATA IS NOT APPLICABLE

SECTION VII - REACTIVITY DATA**Stability:**

Stable:X

Unstable:

Conditions to Avoid: NONE KNOWN.

Incompatibility (Materials to Avoid):

STRONG OXIDIZING AGENTS SUCH AS CHLORINE BLEACH AND CONCENTRATED HYDROGEN PEROXIDE.

Hazardous Decomposition Products:

OXIDES OF CARBON.

Hazardous Polymerization:

May Occur:

Will Not Occur:X

Conditions to Avoid: N/A

SECTION VIII - SPILL OR LEAK PROCEDURES**Steps to be Taken if Material is Released or Spilled:**

USE CARE AS SPILLS MAY BE SLIPPERY. DIKE AND CONTAIN SPILL. ABSORB WITH AN INERT MATERIAL AND TRANSFER ALL MATERIAL INTO A PROPERLY LABELED CONTAINER FOR DISPOSAL. FLUSH AREA WITH WATER.

Waste Disposal Method(s):

DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

Neutralizing Agent:

N/A

SECTION IX - SPECIAL PROTECTION INFORMATION**Required Ventilation:**

GENERAL VENTILATION IS NORMALLY ADEQUATE.

Respiratory Protection:

NONE UNDER NORMAL CONDITIONS OF USE.

Glove Protection:

NONE UNDER NORMAL CONDITIONS OF USE.

Eye Protection:

NONE UNDER NORMAL CONDITIONS OF USE.

Other Protection:

NONE UNDER NORMAL CONDITIONS OF USE.

SECTION X - STORAGE AND HANDLING INFORMATION**Storage Temperature:**

Indoors:X

Outdoors:

Heated:

Refrigerated:

Minimum Temperature:35°F

Maximum Temperature:120°F

Precautions to be taken in Handling and Storing:

KEEP FROM FREEZING. IF PRODUCT FREEZES ALLOW IT TO SLOWLY WARM TO ROOM TEMPERATURE AND STIR THOROUGHLY BEFORE USING. ALWAYS STORE MATERIAL IN ITS ORIGINAL CONTAINER. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE.

Other Precautions:

KEEP OUT OF REACH OF CHILDREN. READ ENTIRE LABEL BEFORE USING PRODUCT. FOLLOW LABEL DIRECTIONS.

SECTION XI - REGULATORY INFORMATION**Chemical Name****CAS Number****Upper % Limit**

Those Ingredients listed above are subject to the reporting requirements of 313 of Title III& of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

PLEASE CALL 1-800-527-9919 FOR ADDITIONAL INFORMATION IF YOU ARE A CALIFORNIA CUSTOMER.
THIS MSDS IS NOT INTENDED FOR USERS IN THE STATE OF CALIFORNIA

SECTION XII - REFERENCES

ALL THE COMPONENTS OF THIS PRODUCT ARE IN COMPLIANCE WITH THE TOXIC SUBSTANCES CONTROL ACT (TSCA) AND ARE EITHER LISTED ON THE TSCA INVENTORY OR OTHERWISE EXEMPTED FROM LISTING.

-----IRR:IRRITANT, FLAM/FLAMM:FLAMMABLE,
COMB:COMBUSTIBLE, CORR:CORROSIVE, CARC:CARCINOGENIC, TOX:TOXIC, N/A:NOT APPLICABLE, N/E:NOT ESTABLISHED, COC:CLEVELAND OPEN CUP, PMCC:PENSKY-MARTIN CLOSED CUP, TCC:TAGLIABUE CLOSED CUP, LEL:LOWER EXPLOSION LIMIT, UEL:UPPER EXPLOSION LIMIT, NFPA:NATIONAL FIRE PROTECTION ASSOCIATION, IARC:INTERNATIONAL AGENCY FOR THE RESEARCH ON CANCER, NTP:NATIONAL TOXICOLOGY PROGRAM, OSHA:OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, ACGIH:AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, TLV:THRESHOLD LIMIT VALUE, PEL:PERMISSIBLE EXPOSURE LIMIT, STEL:SHORT-TERM EXPOSURE LIMIT, MLD:MILD, MOD:MODERATE, SEV:SEVERE, MUT:MUTAGENIC, ASPHYX:ASPHYXIAN, PNOS:PARTICLES (INSOLUBLE) NOT OTHERWISE SPECIFIED, SDT:STANDARD DRAIZE TEST, ORL:ORAL, IHL:INHALATION, HMN:HUMAN

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE IN LIGHT OF CURRENT FORMULATION. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

CERTIFIED LABS, DIV. OF NCH CORP. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product."



MATERIAL SAFETY DATA SHEET

CHAMPION CHOICE CS+

1. Product And Company Identification

Supplier

Chase Products Co.
19th and Gardner Road
Broadview, IL 60155 USA

Company Contact: Aludia B. Hernandez
Telephone Number: 708-865-1000
FAX Number: 708-865-0923
E-Mail: sales@chaseproducts.com
Web Site: www.chaseproducts.com

Manufacturer

Chase Products Co.
19th and Gardner Road
Broadview, IL 60155 USA

Company Contact: Aludia B. Hernandez
Telephone Number: 708-865-1000
FAX Number: 708-865-0923
E-Mail: sales@chaseproducts.com
Web Site: www.chaseproducts.com

Supplier Emergency Contacts & Phone Number

Chem-Tel: 1-800-255-3924

Manufacturer Emergency Contacts & Phone Number

Chem-Tel: 1-800-255-3924

Issue Date: 11/21/2007

Product Name: CHAMPION CHOICE CS+

Chemical Name: 7-7886-1

CAS Number: Not Established

MSDS Number: 4159

Product Code: 438-5158-6

Product/Material Uses - Lubricant

2. Composition/Information On Ingredients

Ingredient Name	CAS Number	Percent Of Total Weight
BUTANE	106-97-8	
HEAVY NAPHTHENIC DISTILLATE	64742-52-5	
LOW ODOR MINERAL SPIRITS	64742-47-8	
PETROLEUM DISTILLATE	64742-47-8	
PROPANE	74-98-6	

Hazardous components, according to OSHA, are listed when present at 1.0% or greater. Carcinogens are listed when present at 0.1% or greater.

3. Hazards Identification

Primary Routes(s) Of Entry - Ingestion (possible, but considered unlikely), eye contact, skin contact, inhalation.

Eye Hazards - Can cause irritation to eyes.

Skin Hazards - May cause allergic skin reactions.

Ingestion Hazards - This is an aerosol product, ingestion is unlikely to occur. Contains petroleum distillate. Harmful if swallowed. If accidentally swallowed, do not induce vomiting, call a physician immediately.

Inhalation Hazards - Deliberate inhalation of concentrated vapor or mist may cause headaches, dizziness and nausea.

Chronic/Carcinogenicity Effects - Over exposure to petroleum solvents has been associated with nervous system damage. None of the ingredients, present in excess of 0.1%, are listed as carcinogenic by NTP, IARC or OSHA.

Teratogenicity (Birth Defects) - Not known.

Reproductive Effects - Not known.

Neurotoxicity - Not known.

MATERIAL SAFETY DATA SHEET

CHAMPION CHOICE CS+

3. Hazards Identification - Continued

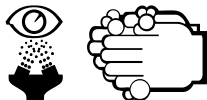
Mutagenicity (Genetic Effect) - Not known.

Signs And Symptoms - Acute: Deliberate inhalation of concentrate vapor or mist may cause headaches, dizziness and nausea. Contact with skin may cause allergic skin reactions. Irritant to the eyes.

Conditions Aggravated By Exposure - May aggravate pre-existing skin and respiratory disorders.

Conditions Aggravated By Overexposure - May aggravate pre-existing skin and respiratory disorders.

First Aid (Pictograms)



4. First Aid Measures

Eye - Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin - Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Ingestion - Ingestion from an aerosol product is unlikely to occur. Contains petroleum distillate. Harmful if swallowed. If accidentally swallowed, do not induce vomiting, call a physician immediately.

Inhalation - If overcome by vapor move victim to fresh air. If person is not breathing, call 911 or an ambulance, then provide artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

5. Fire Fighting Measures

Flash Point: Not available °F Not available °C

Flash Point Method: Not available

Lower Explosive Limit: Not available

Upper Explosive Limit: Not available

Fire And Explosion Hazards - Disconnect electrical tools, equipment and appliances before spraying. Electrical contact may result in flash fire causing serious injury. Do not allow can to come in contact with live wire. This product is an aerosol product for which **Flame Projection is over 18 in. with flashback**. Temperatures above 120 F may cause cans to burst.

Extinguishing Media - Use CO2 (Carbon Dioxide), dry chemical, or water fog.

Fire Fighting Instructions - Water spray may be used to cool cans in the vicinity of fire or excessive heat.

6. Accidental Release Measures

Provide adequate ventilation to area being treated. Soak up spills with chemically inert, absorbent material.

Handling & Storage (Pictograms)



7. Handling And Storage

Handling And Storage Precautions - Handle as an extremely flammable product. Store in a cool, dry place away from heat and open flame.

Handling Precautions - Do not deliberately inhale vapor or spray mist. Avoid getting spray into eyes. Keep out of reach of children.

Storage Precautions - Keep away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric

MATERIAL SAFETY DATA SHEET

CHAMPION CHOICE CS+

7. Handling And Storage - Continued

motors and static electricity). **AEROSOL STORAGE LEVEL III (NFPA-30B)**
Work/Hygienic Practices - Wash hands thoroughly after using this product.

Protective Clothing (Pictograms)



8. Exposure Controls/Personal Protection

Engineering Controls - Use with adequate general or local exhaust ventilation.

Eye/Face Protection - Conventional eyeglasses to guard against splashing.

Skin Protection - Neoprene or Rubber gloves required.

Respiratory Protection - Use in well-ventilated area ONLY. **WHEN USING INDOORS, KEEP WINDOWS AND DOORS OPEN UNTIL FUMES DISSIPATE.**

Ingredient(s) - Exposure Limits

BUTANE

ACGIH TLV-TWA 800 ppm

HEAVY NAPHTHENIC DISTILLATE

OSHA PEL 5mg/m3 as oil mist in air ; ACGIH TLV 5 mg/m3 as oil mist in air

LOW ODOR MINERAL SPIRITS

OSHA PEL 500ppm ; ACGIH TLV 100ppm (Limits for Stoddard Solvent used as a guide).

PETROLEUM DISTILLATE

TWA 1200mg/m3 (Recommended by the manufacturer)

PROPANE

ACGIH TLV-TWA 2500 ppm ; OSHA PEL-TWA 1,000 ppm

Apron, if desired.

9. Physical And Chemical Properties

Appearance - Light yellow liquid.

Odor - Petroleum hydrocarbon odor.

Chemical Type: Mixture

Physical State: Liquid

Melting Point: Not applicable °F Not applicable °C

Boiling Point: Petroleum Distillate >433 °F >223 °C

Specific Gravity: 0.825 concentrate

Percent VOCs: 49.24

Solubility: Insoluble

Evaporation Rate: Faster than butyl acetate

10. Stability And Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur

Conditions To Avoid (Stability) - Temperatures above 120 F

Incompatible Materials - Avoid heat, open flame and contact with strong oxidizers.

Hazardous Decomposition Products - Thermal decomposition may yield toxic gases like carbon monoxide, carbon dioxide, sulfur oxide, calcium oxide and other unidentified organic/inorganic compounds..

MATERIAL SAFETY DATA SHEET

CHAMPION CHOICE CS+

10. Stability And Reactivity - Continued

Conditions To Avoid (Polymerization) - Temperatures above 120 F

11. Toxicological Information

No Data Available...

12. Ecological Information

Ecotoxicological Information - No specific ecological data is available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

13. Disposal Considerations

Do not puncture or incinerate container. **If empty:** Place in garbage or offer for recycling if available. **If partly filled:** Call your local solid waste agency for disposal instructions.

14. Transport Information

Proper Shipping Name - ORM-D Consumer Commodity

Hazard Class

2.1

DOT Identification Number

UN1950

DOT Shipping Label

Aerosol Consumer Commodity

15. Regulatory Information

U.S. Regulatory Information - All ingredients of this product are listed or are excluded from listing under the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

SARA Hazard Classes

Acute Health Hazard; Fire Hazard

SARA Section 313 Notification - This product does not contain any ingredients regulated under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 or 40 CFR 372.

Ingredient(s) - State Regulations

BUTANE

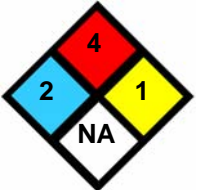
New Jersey - Workplace Hazard; New Jersey - Environmental Hazard; New Jersey - Special Hazard; Pennsylvania - Workplace Hazard; Massachusetts - Hazardous Substance; New York City - Hazardous Substance

PROPANE

New Jersey - Workplace Hazard; New Jersey - Environmental Hazard; New Jersey - Special Hazard; Pennsylvania - Workplace Hazard; Massachusetts - Hazardous Substance; New York City - Hazardous Substance

MATERIAL SAFETY DATA SHEET

CHAMPION CHOICE CS+

NFPA	HMIS
	HEALTH 2
	FLAMMABILITY 4
	REACTIVITY 1
	PERSONAL PROTECTION B

16. Other Information

Revision/Preparer Information

MSDS Preparer: Laura E. Radevski

MSDS Preparer Phone Number: 708-865-1000

This MSDS Supersedes A Previous MSDS Dated: 03/28/2006

Disclaimer

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purposes(s).

Chase Products Co.

Printed Using MSDS Generator™ 2000

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 228.00

Revision Date: March 24, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Charcoal

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Serious eye damage or irritation (Category 2B). Causes eye irritation (H320).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Charcoal	7440-40-0	C	12.01	
Synonym: Activated carbon				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Flammable solid as a dust.

Autoignition Temperature: 450 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and water. Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates. Store in Flinn Chem-Saf™ bag, in a Flinn Saf-Stor™ can. Store in a cool, dry place. Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling. Use only in a hood or well-ventilated area (P271).

Exposure Guidelines: (as carbon black) PEL 3.5 mg/m³ (OSHA); TLV (inhalable fraction) 3 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Black powder, granule, or lump. Odorless.

Boiling point: 4200 °C

Soluble: Insoluble in water.

Specific gravity: 1.821-2.1

SECTION 10 — STABILITY AND REACTIVITY

Avoid heat, flame, and oxidizing agents.

Shelf life: Good, if kept dry and stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Eye and respiratory tract irritant.

ORL-RAT LD₅₀: 10,000 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: 64.4 mg/L

Target organs: Eyes and respiratory tract.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Charcoal. Hazard class: 4.2, Spontaneously combustible. UN number: NA1361.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-153-3).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 24, 2014

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Chaser® Ultra Weed & Feed

Synonyms and Chemical name: Herbicides on fertilizer

EPA Reg. No.: 228-376-65783

Formulated for: United Horticultural Supply
419 18th Street
Greeley, CO 80631

Phone #s: Emergency Phone Number:

CHEMTREC 1-800-424-9300

Medical Emergency Phone Number:

1-800-228-5635 extension 136

Revisions: New ANSI format, new

MSDS Number: 228376

Date: 04/28/ 01

Supersedes: New

2. COMPOSITION INFORMATION ON INGREDIENTS

		Percent by Weight
Chemical Ingredients:	Active Ingredients: 2,4-D acid(CAS: 94-75-7)	0.861
	Clopyralid Acid(CAS#:1702-17-6)	0.037
	Dicamba Acid(CAS# 1918-00-9)	0.072
	Proprietary Ingredients: Fertilizer see label for N-P-K	99.030

See Section 8 for Personal Protective Equipment (PPE) .

3. HAZARDS IDENTIFICATION

Emergency Overview: A blend of red/brown/gray/white granules with a slight ammonia odor. May cause moderate eye irritation.

Potential Health Effects: This section includes possible adverse effects, which occur if this material is not handled in the recommended manner.

Eye: Causes moderate eye irritation.

Skin: None known at these %'s.

Ingestion: None known at these %'s.

Inhalation: None known at these %'s

Medical conditions possibly aggravated by exposure: Skin exposure may aggravate existing skin conditions. Exposure to dust may aggravate existing respiratory conditions. Avoid contact with eyes, skin and clothing.

This product is toxic to aquatic invertebrates.

4. FIRST AID MEASURES

If in eyes: Flush with running water for at least 15 minutes while holding open eyelids to help flush out material. If irritation persists, seek medical attention.

If on Skin: Wash with plenty of soap and water, pay attention to the hair and finger nails. Remove contaminated clothing and wash clothing separate of other laundry before reuse. If irritation persists seek medical attention.

If Inhaled: Remove to fresh air. If breathing is difficult, please administer oxygen. If breathing stops administer artificial respiration. Get medical attention immediately.

If Swallowed: Call a physician to get medical attention, the emergency telephone number is 1-800-228-5635 extension 136. Drink 1 to 2 glasses of water and induce vomiting. Do not give anything by mouth or induce vomiting if person is unconscious.

5. FIRE FIGHTING MEASURES

Flash Point: Not applicable**Flammable Limits:** None established**Fire Extinguishing Media:** Use extinguishing media suitable for surrounding materials. Dry chemical, foam and water fog**Special Fire Fighting Procedures:** Wear self-contained breathing apparatus and full-protective clothing.**Unusual Fire or Explosion Hazards:** Keep people away. Isolate fire area and deny unnecessary entry. Under fire conditions some components of this product may decompose into the following but not limited to: hydrogen chloride and nitrogen oxides.

6. ACCIDENTAL RELEASE MEASURES

Release or Spill: Contain spill; sweep up material and place in container for possible land application according to label use or for proper disposal.

Be sure to wear PPE as described in section 8. Wash entire spill area with a detergent slurry, absorb and sweep into container for disposal. Check local, state and federal regulations for proper disposal.

7. HANDLING AND STORAGE

Avoid contact with eyes or clothing. Food utensils such as spoons and measuring cups must not be used for food purposes after use in measuring pesticides. Do not allow children or pets on treated areas until granules have been watered into the soil and the grass or soil is dry. Do not stack more than two pallets high. Do not contaminate water, food or feed by storage or disposal.

Most cases of groundwater contamination involving herbicides such as 2,4-D and Clopyralid have been associated with mixing/loading and disposal sites. Additionally, using Clopyralid where soils are permeable, particularly where the water table is shallow, may result in leaching to groundwater. Caution should be exercised when handling this product at mixing/loading and disposal sites to prevent contamination of groundwater supplies.

Use of closed systems for mixing and transferring this pesticide will reduce the probability of spills. Placement of mixing/loading equipment on an impervious pad to contain spills will prevent groundwater contamination.

Store in original container in a secured, dry storage area. Prevent cross-contamination with other pesticides and fertilizers.

Wash hands thoroughly after handling and before eating, drinking, or smoking.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

These precautions are suggested for conditions with high potential for exposure. If handling procedures are such that there is only a low potential for exposure, less protection may be needed. Emergency conditions may require additional precautions.

Exposure Guidelines: None established however, dust may be 10 mg/cm**Engineering Controls:** Good general ventilation should be sufficient for most conditions.**Eye Protection:** Use chemical goggles or safety glasses.**Skin Protection:** Use gloves impervious to this material when prolonged or frequently repeated contact could occur. Wear protective clothing: long-sleeved shirts and pants, hat, boots with socks.**Respiratory Protection:** In poorly ventilated area or dusty atmospheres, use an NIOSH-approved dust mask or respirator with pesticide cartridges.

9. Physical and Chemical Properties

Appearance: Blend of red/brown/gray/white granules**Odor:** Slight odor of ammonia.**Note:** These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

10. STABILITY AND REACTIVITY

Stability: Thermally stable at typical use temperatures.**Incompatibility:** Strong oxidizers or acids.**Hazardous Decomposition Products:** Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Ammonia, oxides of carbon, nitrogen and sulfur. **Hazardous Polymerization:** Not known to occur.

11. TOXICOLOGICAL INFORMATION

MATERIAL SAFETY DATA SHEET

ChaserÒ Ultra Weed & Feed

Primary routes of entry: Eye and skin contact, oral and inhalation

Acute oral LD 50 (rat) 5000 mg/kg **Acute dermal LD 50 (rabbit)** 5000mg.kg

Acute Inhalation LC50 (rabbit): 2.27 mg/L no mortality **Eyes:** Causes moderate eye irritation

12. ECOLOGICAL INFORMATION

Environmental hazards: This product is toxic to aquatic invertebrates. . Avoid application directly to water, to areas where the surface water is present or to inter-tidal areas below the mean high water mark, Use with care when next to any body of water. Take care not to contaminate water when cleaning application equipment.

Environmental fate: 2,4-D, clopyralid and dicamba each have a relatively short half-life of, on average 6 to 9 days, 40 days and 1 to 4 weeks respectively. The active ingredients in this product are all biodegraded by soil microbes.

13. DISPOSAL CONSIDERATIONS

Do not contaminate water, food or feed by disposal. Improper disposal of excess product is a violation of the federal law. Dispose of bag in a sanitary landfill if allowed by authorities.

Check local, state and federal regulations prior to disposal.

14. TRANSPORT INFORMATION

Follow the precautions indicated in the Handling and Storage Section, Section 7 of this MSDS.

This formulation not regulated by US DOT by highway.

U.S. Surface Freight Classification: Insecticide, insect repellant; NOI; other than poison (NMFC 102120; Class; 60)

15. REGULATORY INFORMATION

SARA Hazard Notification/Reporting

NFPA & HMIS Hazard Ratings:

NFPA

1 Health

1 Flammability

0 Reactivity

0 Least

1 Slight

2 Moderate

3 High

HMIS

1 Health

1 Flammability

0 Reactivity

C- PPE

SARA Title III Hazard Category:

Immediate Y

Delayed N

Fire N

Reactive N

Sudden Release of Pressure N

Reportable Quantity (RQ) under U.S. CERCLA: None

16. OTHER

Reasons for revision: New subregistration..

Prepared by: Dennis Belau

Approved by: Environmentally/ Regulatory Services

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, United Horticultural Supply makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving it will make their own determination as to its suitability for their purposes prior to use. In no event will United Horticultural Supply be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF

MATERIAL SAFETY DATA SHEET

ChaserÒ Ultra Weed & Feed

MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (*As Used on Label and List*)

Chemical Flat Stop

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name Saetz Manufacturing LLC	Emergency Telephone Number 1-913-557-5169
Address (<i>Number, Street, City, State, and ZIP Code</i>)	Telephone Number for Information 1-913-557-5169
P.O. Box 670	Date Prepared 03/25/2010
Olathe, KS 66051	Signature of Preparer (<i>optional</i>)

Section II - Hazard Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	%(<i>optional</i>)
< 10 Methanol Alcohol by weight; remainder of product is water and various solids.				
May be harmful if swallowed.				

Section III - Physical/Chemical Characteristics

Boiling Point	200 F	Specific Gravity (H ₂ O = 1)	N/A
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A
Solubility in Water Yes.			
Appearance and Odor Color is pink to red, Slight Alcohol Odor			

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) 200F Open Cup Method	Flammable Limits N/A	LEL N/A	UEL N/A
Extinguishing Media Water, Foam, or Carbon Dioxide, Chemical Flat Stop will not burn			
Special Fire Fighting Procedures None known or required.			
Unusual Fire and Explosion Hazards None known or required.			

(Reproduce locally)

OSHA 174, Sept. 1985

Section V - Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	None known
Incompatibility (<i>Materials to Avoid</i>) None Known			
Hazardous Decomposition or Byproducts			
Hazardous Polymerization	May Occur		Conditions to Avoid: Ingestion, inhaling or prolonged contact to body or skin; avoid getting into eyes.
	Will Not Occur		

Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation? See above.	Skin? See Above.	Ingestion? See above.
Health Hazards (<i>Acute and Chronic</i>) None are known. Avoid inhaling Dry Residue.			
Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
None known.			
Signs and Symptoms of Exposure: None known.			
Medical Conditions Generally Aggravated by Exposure: None known.			
Emergency and First Aid Procedures: Wash with fresh water.			

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled: Normal clean-up; no special steps required or needed.
Waste Disposal Method: No special steps required.
Precautions to Be taken in Handling and Storing: No special steps needs.
Other Precautions: None are known.

Section VIII - Control Measures

Respiratory Protection (<i>Specify Type</i>) Avoid closed in area. No other steps are needed.		
Ventilation	Local Exhaust: Yes	Special None known.
	Mechanical (<i>General</i>): None Known.	Other None known.
Protective Gloves: Not needed.		Eye Protection Avoid getting into eyes.
Other Protective Clothing or Equipment None needed.		
Work/Hygienic Practices: None known.		

* U.S.G.P.O.: 1986 - 491 - 529/45775

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name CHERRY FORCE
Product Code 0894
Information on Manufacturer
MANTEK, DIVISION OF NCH CORP.
BOX 152170
IRVING, TEXAS 75015

Recommended Use Use in drains Emulsifier Flow improver
Chemical Nature Hydrocarbon
Emergency Telephone Number
CHEMTREC ® 800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview

Warning
Combustible liquid and vapor
Severe eye irritation
Causes skin irritation
May cause allergic skin reaction
May be harmful if inhaled
Harmful or fatal if swallowed

Color Red

Physical State Liquid

Odor Cherry

Potential Health Effects

Principle Route of Exposure

Primary Routes of Entry

Acute Effects

Eyes

Skin

Inhalation

Ingestion

Chronic Effects

Target Organ Effects

Aggravated Medical Conditions

Potential Environmental Effects

Inhalation, Skin contact, Eye contact.

Skin Absorption, Inhalation.

Severe eye irritant.

Causes skin irritation. May cause allergic skin reaction.

May cause irritation of respiratory tract. May cause central nervous system depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Aspiration hazard if swallowed - can enter lungs and cause damage. May be fatal if swallowed and enters airways.

Prolonged skin contact may defat the skin and produce dermatitis. May cause sensitization by skin contact.

Eyes, Skin, Respiratory system, Central nervous system, Kidney, Bone Marrow.

Allergies. Skin disorders. Respiratory disorders. Neurological disorders.

See Section 12 for additional Ecological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
1-Tetradecene	1120-36-1
Terpene hydrocarbons, n.o.s.	68956-56-9
Alcohols, C 12-14 secondary, ethoxylated	84133-50-6
Proprietary fragrance	TRADE SECRET

4. FIRST AID MEASURES

General Advice

Eye Contact

Skin Contact

Inhalation

Ingestion

Notes to Physician

Avoid contact with skin, eyes, and clothing. Avoid breathing vapors, mist, or gas.

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately.

Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before re-use.

If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.

Aspiration hazard if swallowed - can enter lungs and cause damage.

5. FIRE-FIGHTING MEASURES

Flash Point 164°F / 73°C

Autoignition Temperature No information available..

Flammability Limits in Air % Mixture.

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO2). Foam. Dry chemical.

Specific Hazards Arising from the Chemical

Solvent vapors are heavier than air and may spread along floors. Vapors may ignite and explode. Material can create slippery conditions.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA	Health	2	Flammability	2	Instability	0
HMIS	Health	2	Flammability	2	Instability	0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Environmental Precautions

Methods for Containment

Methods for Cleaning Up

Neutralizing Agent

Avoid contact with skin, eyes, and clothing. Remove all sources of ignition. Ensure adequate ventilation. Use personal protective equipment.

Prevent further leakage or spillage if safe to do so.

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

Pick up and transfer to properly labeled containers.

Not applicable.

7. HANDLING AND STORAGE

Handling

Storage

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.

Keep container tightly closed in a dry and well-ventilated place.

Storage Temperature	Minimum	35°F / 2°C	Maximum	120°F / 49°C
Storage Conditions	Indoor	X	Outdoor	Heated
				Refrigerated

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
1-Tetradecene	No data available	no data available	no data available
Terpene hydrocarbons, n.o.s.	No data available	no data available	no data available
Alcohols, C 12-14 secondary, ethoxylated	No data available	no data available	no data available
Proprietary fragrance	No data available	no data available	no data available

Engineering Measures

Use with local exhaust ventilation. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/Face Protection

Safety glasses with side-shields.

Skin Protection

Impervious gloves.

Respiratory Protection

In case of insufficient ventilation wear suitable respiratory equipment.

General Hygiene Considerations

Wear protective gloves/clothing. Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	Viscosity	Non viscous
Color	Red	Odor	Cherry
Appearance	Transparent	pH	Not applicable
Specific Gravity	0.805	Evaporation Rate	0.04 (Butyl acetate=1)
Percent Volatile (Volume)	95.5	VOC Content (%)	94.7
VOC Photoreactive (Y/N)	Yes	VOC Content (g/l)	763
Vapor Pressure	0.68 mmHg @ 70 °F	Vapor Density	4.9 (Air = 1.0)
Solubility	Negligible	Boiling Point/Range	425°F / 218°C

10. STABILITY AND REACTIVITY

Chemical Stability

Stable under normal conditions. Hazardous polymerization does not occur.

Conditions to Avoid

Keep away from open flames, hot surfaces, and sources of ignition.

Incompatible Products

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products

Carbon oxides, Hydrocarbons.

Possibility of Hazardous Reactions

None under normal processing..

11. TOXICOLOGICAL INFORMATION

Product Information

No information available.

Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
1-Tetradecene	10000 mg/kg (Rat)	10000 mg/kg (Rabbit)	no data available	no data available	no data available
Terpene hydrocarbons, n.o.s.	no data available	no data available	no data available	no data available	no data available
Alcohols, C 12-14 secondary, ethoxylated	no data available	no data available	no data available	no data available	no data available
Proprietary fragrance	no data available	no data available	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
1-Tetradecene	no data available	no data available	no data available	no data available	no data available
Terpene hydrocarbons, n.o.s.	no data available	Skin sensitization	no data available	no data available	CNS, Kidney, Bone marrow
Alcohols, C 12-14 secondary, ethoxylated	no data available	Skin sensitization	no data available	no data available	Bone Marrow
Proprietary fragrance	no data available	no data available	no data available	no data available	Central nervous system

Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Other
1-Tetradecene	not applicable	not applicable	not applicable	not applicable	not applicable
Terpene hydrocarbons, n.o.s.	not applicable	not applicable	not applicable	not applicable	not applicable
Alcohols, C 12-14 secondary, ethoxylated	not applicable	not applicable	not applicable	not applicable	not applicable
Proprietary fragrance	not applicable	not applicable	not applicable	not applicable	not applicable

12. ECOLOGICAL INFORMATION

Product Information

No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
1-Tetradecene	no data available	no data available	EC50 > 10000 mg/L 6 h	no data available	N/A
Terpene hydrocarbons, n.o.s.	no data available	no data available	no data available	no data available	N/A
Alcohols, C 12-14 secondary, ethoxylated	no data available	LC50= 3.2 mg/L Pimephales promelas 96 h	no data available	EC50 = 3.2 mg/L 48 h	N/A
Proprietary fragrance	no data available	no data available	no data available	no data available	N/A

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal

Dispose of in accordance with local regulations.

Container Disposal

Empty containers should be taken for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name <130gals NOT REGULATED >130 gals; Terpene hydrocarbons, n.o.s.
Hazard Class 3
UN-No UN2319
Packing Group III
Description Terpene hydrocarbons, n.o.s.,3,UN2319,PG III

TDG

Proper shipping name Terpene hydrocarbons, n.o.s.
Hazard Class 3
UN-No UN2319
Packing Group III
Description TERPENE HYDROCARBONS, N.O.S.,3,UN2319,PG III

ICAO

UN-No UN2319
Proper Shipping Name Terpene hydrocarbons, n.o.s.
Hazard Class 3
Packing Group III
Shipping Description Terpene hydrocarbons, n.o.s.,3,UN2319,PG III

IATA

UN-No UN2319
Proper Shipping Name Terpene hydrocarbons, n.o.s.
Hazard Class 3
Packing Group III
ERG Code 3L
Shipping Description UN2319,Terpene hydrocarbons, n.o.s.,3,PG III

IMDG/IMO

Proper Shipping Name Terpene hydrocarbons, n.o.s.
Hazard Class 3
UN-No UN2319
Packing Group III
EmS No. F-E, S-D
Shipping Description UN2319, Terpene hydrocarbons, n.o.s.,3,PG III

15. REGULATORY INFORMATION

Inventories

TSCA

Complies

DSL

Complies

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	Yes	Yes	No	No

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
1-Tetradecene	Not applicable	Not applicable
Terpene hydrocarbons, n.o.s.	Not applicable	Not applicable
Alcohols, C 12-14 secondary, ethoxylated	Not applicable	Not applicable
Proprietary fragrance	Not applicable	Not applicable

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

B3 Combustible liquid, D2B Toxic materials.



16. OTHER INFORMATION

Prepared By Kristen Stansbury
Supersedes Date 12/28/2006
Issuing Date 02/26/2009
Reason for Revision No information available.
Glossary No information available.
List of References. TBD

MANTEK, DIVISION OF NCH CORP. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product. The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Safety Data Sheet: CHERRY MAT

Supersedes Date 02/26/2009

Issuing Date 12/18/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name CHERRY MAT

Recommended use Use in drains Emulsifier Flow improver

Information on Manufacturer

CERTIFIED LABS, DIV. OF NCH CORP.

BOX 152170

IRVING, TEXAS 75015

Product Code 0894

Chemical nature Hydrocarbons

Emergency Telephone Number

CHEMTREC® 800-424-9300

Telephone inquiry

972-579-2477

2. HAZARD IDENTIFICATION

Color Red

Physical State Liquid

Odor Cherry Pine

GHS

Classification

Physical Hazards

Flammable liquids

Category 4

Health Hazard

Aspiration Toxicity

Skin Corrosion/Irritation

Serious Eye Damage/Eye Irritation

Skin Sensitization

Specific target organ systemic toxicity (single exposure)

Specific target organ systemic toxicity (repeated exposure)

Category 1

Category 2

Category 2A

Category 1

Category 3

Category 2

Other hazards

None

Labeling

Signal Word

DANGER



Hazard Statements

H227 - Combustible liquid

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H336 - May cause drowsiness or dizziness

H304 - May be fatal if swallowed and enters airways

H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements

P210 - Keep away from heat, sparks, open flames or hot surfaces.

P280 - Wear protective gloves, protective clothing and eye protection.

P264 - Wash face, hands and any exposed skin thoroughly after handling.

P272 - Contaminated work clothing should not be allowed out of the workplace

P261 - Avoid breathing vapors or mist

P271 - Use in a well-ventilated area.

P302+ P352 - IF ON SKIN: Wash with plenty of soap and water

P333 + P313 - If skin irritation or rash occurs, get medical attention

P362 - Take off contaminated clothing and wash before reuse

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists, get medical attention.

P304 + P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

P342 + P311 - If experiencing respiratory symptoms, call a physician

P301+ P330 + P331 - IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Call a physician if unwell.

P403 + P235 - Store in a well-ventilated place. Keep cool

P233 - Keep container tightly closed

P501 - Dispose of contents and container in accordance with applicable regulations.

35 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
1-Tetradecene	1120-36-1	40-70
Terpene hydrocarbons	68956-56-9	15-40
Alcohols, C 12-14 secondary, ethoxylated	84133-50-6	3-7
Benzaldehyde	100-52-7	1-5
Terpene Alcohols	273-309-3	1-5
2-Butyl-1-decene	51655-65-3	1-5
2-Ethyl-1-dodecene	19780-34-8	1-5

4. FIRST AID MEASURES

General advice	Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists.
Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before re-use.
Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion	Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person. Rinse mouth.
Notes to physician	Aspiration hazard if swallowed - can enter lungs and cause damage. May be fatal if swallowed and enters airways. May cause sensitization of susceptible persons.

5. FIRE-FIGHTING MEASURES

Flash Point	164 °F / 73 °C	Method	Seta closed cup
Flammability Limits in Air % Mixture.		Upper	12.7
Suitable Extinguishing Media		Lower	1.3
Water spray. Carbon dioxide (CO2). Foam. Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.			
Specific hazards arising from the chemical			
Solvent vapors are heavier than air and may spread along floors. Vapors may ignite and explode. Material can create slippery conditions.			
Protective Equipment and Precautions for Firefighters			
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.			
NFPA	Health 2	Flammability 2	Instability 0
HMIS	Health 2	Flammability 2	Instability 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Remove all sources of ignition. Ensure adequate ventilation. Use personal protective equipment. Material can create slippery conditions.
Environmental Precautions	Prevent further leakage or spillage if safe to do so.
Methods for Containment	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Methods for Cleaning Up	Use nonsparking tools and explosion-proof lamps and electric appliances. Pick up and transfer to properly labeled containers.
Neutralizing Agent	Not applicable.

7. HANDLING AND STORAGE

Handling	Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists.
Storage	Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.
Storage Temperature	Minimum 35 °F / 2 °C
Storage Conditions	Indoor X Outdoor Maximum 120 °F / 49 °C
	Heated Refrigerated

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
1-Tetradecene	No data available	No data available	No data available
Terpene hydrocarbons	No data available	No data available	No data available
Alcohols, C 12-14 secondary, ethoxylated	No data available	No data available	No data available
Benzaldehyde	No data available	No data available	No data available
Terpene Alcohols	No data available	No data available	No data available

2-Butyl-1-decene	No data available	No data available	No data available
2-Ethyl-1-dodecene	No data available	No data available	No data available

Engineering Measures	Ensure adequate ventilation, especially in confined areas. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.
Personal Protective Equipment	
Eye/Face Protection	Safety glasses with side-shields.
Skin Protection	Impervious gloves
Respiratory Protection	In case of insufficient ventilation wear suitable respiratory equipment. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
General Hygiene Considerations	Wear protective gloves/clothing. Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	Viscosity	Non viscous
Color	Red	Odor	Cherry Pine
Odor Threshold	Not applicable	Appearance	Transparent
pH	Not applicable	Specific Gravity	0.805
Evaporation Rate	0.04 (Butyl acetate=1)	Percent Volatile (Volume)	95.5
VOC Content (%)	94.7	VOC Photoreactive (Y/N)	Yes
VOC Content (g/L)	763	Vapor Pressure	0.68 mmHg @ 70°F
Vapor Density	4.9 (Air = 1.0)	Solubility	Negligible
n-Octanol/Water Partition	No data available	Melting Point/Range	No data available
Decomposition Temperature	No data available	Boiling Point/Range	425 °F / 218 °C
Flammability (solid, gas)	No data available		
Flash Point	164 °F / 73 °C	Method	Seta closed cup
Autoignition Temperature	No information available.		
Flammability Limits in Air %	Mixture.	Upper 12.7 Lower 1.3	

10. STABILITY AND REACTIVITY

Chemical Stability	Stable. Hazardous polymerization does not occur.
Conditions to Avoid	Keep away from open flames, hot surfaces, and sources of ignition
Incompatible Products	Strong oxidizing agents, Strong acids, Strong bases.
Hazardous Decomposition Products	Carbon oxides, Hydrocarbons.
Possibility of Hazardous Reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Product Information

The following values are calculated based on chapter 3.1 of the GHS document (Rev. 3, 2009):

Oral LD50	No information available
Dermal LD50	No information available
Inhalation LC50	
Gas	No information available
Mist	No information available
Vapor	No information available

Principle Route of Exposure	Inhalation, Skin contact, Eye contact.
Primary Routes of Entry	Skin Absorption, Inhalation.
Acute Effects	
Eyes	Severe eye irritant.
Skin	Causes skin irritation. May cause allergic skin reaction.
Inhalation	May cause irritation of respiratory tract. Inhalation may cause central nervous system effects. May cause central nervous system depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration hazard if swallowed - can enter lungs and cause damage. May be fatal if swallowed and enters airways.
Chronic Toxicity	Prolonged skin contact may defat the skin and produce dermatitis. May cause sensitization by skin contact. Contains a known or suspected carcinogen.
Target Organ Effects	Central Nervous System, Lungs, Respiratory system.
Aggravated Medical Conditions	Neurological disorders, Respiratory disorders.

Component Information

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
1-Tetradecene	> 10000 mg/kg (Rat)	> 10000 mg/kg (Rabbit)	no data available	no data available	no data available
Terpene hydrocarbons	no data available	no data available	no data available	no data available	no data available
Alcohols, C 12-14 secondary,	no data available	no data available	no data available	no data available	no data available

ethoxylated					
Benzaldehyde	= 800 mg/kg (Rat)	> 1250 mg/kg (Rabbit)	no data available	no data available	no data available
Terpene Alcohols	no data available	no data available	no data available	no data available	no data available
2-Butyl-1-decene	no data available	no data available	no data available	no data available	no data available
2-Ethyl-1-dodecene	no data available	no data available	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
1-Tetradecene	no data available	no data available	no data available	no data available	no data available
Terpene hydrocarbons	no data available	Skin sensitization	no data available	no data available	CNS, lungs
Alcohols, C 12-14 secondary, ethoxylated	no data available	no data available	no data available	no data available	respiratory system
Benzaldehyde	no data available	no data available	no data available	no data available	no data available
Terpene Alcohols	no data available	no data available	no data available	no data available	no data available
2-Butyl-1-decene	no data available	no data available	no data available	no data available	no data available
2-Ethyl-1-dodecene	no data available	no data available	no data available	no data available	no data available

Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Other
1-Tetradecene	not applicable	not applicable	not applicable	not applicable	not applicable
Terpene hydrocarbons	not applicable	not applicable	not applicable	not applicable	not applicable
Alcohols, C 12-14 secondary, ethoxylated	not applicable	not applicable	not applicable	not applicable	not applicable
Benzaldehyde	A3	not applicable	not applicable	not applicable	not applicable
Terpene Alcohols	not applicable	not applicable	not applicable	not applicable	not applicable
2-Butyl-1-decene	not applicable	not applicable	not applicable	not applicable	not applicable
2-Ethyl-1-dodecene	not applicable	not applicable	not applicable	not applicable	not applicable

12. ECOLOGICAL INFORMATION**Product Information**

No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
1-Tetradecene	no data available	no data available	EC50 > 10000 mg/L 6 h	no data available	N/A
Terpene hydrocarbons	no data available	no data available	no data available	no data available	N/A
Alcohols, C 12-14 secondary, ethoxylated	no data available	LC50 = 3.2 mg/L Pimephales promelas 96 h	no data available	EC50= 3.2 mg/L 48 h	N/A
Benzaldehyde	no data available	LC50 10.6 - 11.8 mg/L Oncorhynchus mykiss 96 h LC50 = 12.69 mg/L Oncorhynchus mykiss 96 h LC50 0.8 - 1.44 mg/L Lepomis macrochirus 96 h LC50 6.8 - 8.53 mg/L Pimephales promelas 96 h LC50 = 7.5 mg/L Lepomis macrochirus 96 h	EC50 = 4.85 mg/L 30 min EC50 = 5.08 mg/L 15 min EC50 = 6.11 mg/L 5 min	EC50= 50 mg/L 24 h	1.48
Terpene Alcohols	no data available	no data available	no data available	no data available	N/A
2-Butyl-1-decene	no data available	no data available	no data available	no data available	N/A
2-Ethyl-1-dodecene	no data available	no data available	no data available	no data available	N/A

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

13. DISPOSAL CONSIDERATIONS**Product Disposal**

Dispose of in accordance with local regulations.

Container Disposal

Empty containers should be taken for local recycling, recovery, or waste disposal.

14. TRANSPORT INFORMATION**DOT****Proper Shipping Name**

<130gals NOT REGULATED >130 gals; Terpene hydrocarbons, n.o.s.

Hazard Class

3

UN-No

UN2319

Packing Group

III

Description Terpene hydrocarbons, n.o.s.,3,UN2319,PG III

TDG

Proper shipping name Terpene hydrocarbons, n.o.s.
Hazard Class 3
UN-No UN2319
Packing Group III

ICAO

UN-No UN2319
Proper Shipping Name Terpene hydrocarbons, n.o.s.
Hazard Class 3
Packing Group III
Shipping Description Terpene hydrocarbons, n.o.s.,3,UN2319,PG III

IATA

UN-No UN2319
Proper Shipping Name Terpene hydrocarbons, n.o.s.
Hazard Class 3
Packing Group III
ERG Code 3L
Shipping Description UN2319, Terpene hydrocarbons, n.o.s.,3,PG III

IMDG/IMO

Proper Shipping Name Terpene hydrocarbons, n.o.s.
Hazard Class 3
UN-No UN2319
Packing Group III
EmS No. F-E, S-D
Shipping Description UN2319, Terpene hydrocarbons, n.o.s.,3,PG III

15. REGULATORY INFORMATION

Inventories

TSCA Complies

DSL Complies

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	Yes	Yes	No	No

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
1-Tetradecene	Not applicable	Not applicable
Terpene hydrocarbons	Not applicable	Not applicable
Alcohols, C 12-14 secondary, ethoxylated	Not applicable	Not applicable
Benzaldehyde	Not applicable	Not applicable
Terpene Alcohols	Not applicable	Not applicable
2-Butyl-1-decene	Not applicable	Not applicable
2-Ethyl-1-dodecene	Not applicable	Not applicable

16. OTHER INFORMATION

Prepared By Sarah Williamson

Supersedes Date 02/26/2009

Issuing Date 12/18/2013

Reason for Revision No information available.

Glossary No information available.

List of References. No information available.

CERTIFIED LABS, DIV. OF NCH CORP. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product. The information provided on this document is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The

information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

CHEWING GUM REMOVER

ITEM NUMBER: 726 - CHEWING GUM REMOVER 6.5 OZ.
VERSION 5 EFFECTIVE DATE: 02/07/07 SUPERCEDES: 01/31/07 PREPARED BY: Regulatory Compliance
Section(s) Revised: II, III, IV
IDENTITY (As Used On Label and List): Chemco, Inc. Chewing Gum Remov

EMERGENCY MEDICAL Telephone# 1-866-836-8855 (24 Hrs) Outside of the U.S.A. Call 952-852-4646

PRODUCT HAZARD RATINGS (HMIS): Health = 1, Fire = 4, Reactivity = 0, Protective Equipment = B
(Rating Legend: - 4 - Extreme, 3 = Serious, 2 = Moderate, 1 = Slight, 0 = Minimal, * = Chronic Hazard)

SECTION I

INDCO INC
P O BOX 109

TELEPHONE NUMBER FOR INFORMATION :

GLOUCESTER CITY
NJ 08030

DATE PRINTED : 4/26/07 NAME OF PREPARER : REGULATORY COMPLIANCE

SECTION II - HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

Chemical Names	SARA Title III SEC 313	ACGIH TLV-TWA/STEL	OSHA PEL/STEL	% By Wt.
Liquefied Petroleum Gas Mixture (CAS#68476-86-8)	No	See below ingredient data		100%
Propane (74-98-6)	No	1000 ppm/ NE	1000 ppm/ NE	(10-20)
n-Butane (106-97-8)	No	1000 ppm/ NE	NE / NE	(80-90)

Unidentified ingredients are not considered hazardous under the Federal Hazard Communication Standard.

SECTION III - PHYSICAL CHARACTERISTICS

Boiling Point: NA Vapor Pressure (psig): 40-70 @ 70F
Specific Gravity - calculated (H2O=1): 0.572 ± 0.005
Solubility/Water: Negligible Vapor Density (AIR=1): ND Evaporation Rate (Ether=1): ND
Appearance and Odor: Clear, Odorless Gas

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Aerosol Flammability: Product is to be labeled as extremely flammable as described in 16 CFR 1500.3 and 1500.45.
Flashpoint: <0 F (Propellant): NA (Concentrate)
Flammable Limits - % Volume In Air (Propellant): LEL: 1.9 UEL: 9.5
Extinguishing Media: Carbon dioxide, foam and/or dry chemical may be used.
Special Fire Fighting Procedures: Containers should be cooled with water to prevent vapor pressure build up.
Use equipment or shielding, as required, to protect personnel from bursting, rupturing or venting containers.
Unusual Fire and Explosion Hazards: At elevated temperatures (over 54C-130F) containers exposed to direct flame or heat contact should be cooled with water to prevent weakening of container structure.

SECTION V - REACTIVITY DATA

Stability: Stable Hazardous Polymerization: NA
Incompatibility (Materials to Avoid): Oxygen and strong oxidizing agents Hazardous Decomposition
Products: Oxides of carbon and additional toxic chemicals may be formed in small amounts.
Conditions to Avoid: Do not store above 54C-130F. Keep away from heat, direct sunlight, open flames or sparks. Dropping of containers may cause bursting.

SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry: Inhalation: X Eyes: X Skin: X Ingestion: X
 Signs and Symptoms of Exposure: Inhalation: Simple asphyxiant. May cause dizziness, disorientation, headaches and central nervous system depression. Liquified gas may cause freeze burns to skin and eyes. Ingestion: possible frostbite to mucous membranes and central nervous system.
 Medical Conditions Generally Aggravated by Exposure: Preexisting skin or eye disorders may be aggravated by exposure to this product.
 Emergency and First Aid Procedures: Inhalation: Remove from exposure, if breathing administer artificial respiration. Seek medical attention. Eye Contact: Vapor may cause mild irritation. Flush eyes with plenty of water for 15 minutes while holding eyelids open. For freeze burns seek medical attention. Skin: Flush affected area with water for 15 minutes. For freeze burns, seek medical attention. If irritation persists obtain medical attention.
 Ingestion: Seek medical attention.
 CARCINOGENICITY:
 No regulated ingredients.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Releases or Spilled: Remove all sources of ignition and ventilate area. Soak up spill with an inert absorbent and place into a designated disposal container. Consult local regulatory agency for proper disposition of material.
 Waste Disposal Method: Do not puncture or incinerate containers. When contents are depleted continue to depress button until all gas is expelled. Dispose of container in accordance with local, state, and federal regulations.
 Handling And Storing: Avoid breathing vapor. Keep away from heat and flame. Use with adequate ventilation. Do not puncture or incinerate containers. Do not expose to direct sunlight or store at temperatures above 130F (54C). Store as Level 3 Aerosol (NFPA 30B).
 Other Precautions: Please read and follow the directions on the product label; they are your best guide to using this product in the most effective way, and give the necessary safety precautions to protect your health.

SECTION VIII - EMPLOYEE PROTECTION

Respiratory Protection (Type): None required if good ventilation is maintained. If exposure exceeds occupational exposure limits (Sec. II), use a NIOSH approved respirator to prevent overexposure.
 Ventilation: Local exhaust is adequate under normal conditions, mechanical ventilation is optional.
 Protective Gloves: Chemical resistant gloves.
 Eye Protection: Chemical safety glasses are recommended.
 Other Protective Clothing or Equipment: Wear impervious clothing to prevent skin contact.
 Work/Hygienic Practices: Ensure strict sanitary conditions are conformed to when working around chemicals.
 Protective clothing and equipment should be in accordance with 29 CFR 1910.132 and CFR 1910.133.

Section IX-Other Regulatory Controls

FEDERAL:
 Toxic Substance Control Act (TSCA): Ingredients of this product are listed on the EPA/TSCA Inventory of Chemical Substances.
 STATE RIGHT-TO-KNOW:
 Pennsylvania/New Jersey Right-To-Know (Chemical and CAS No.):
 Refer to Section II.

Section X-Transportation (D.O.T. Classification)

Proper Shipping Name: Consumer Commodity Hazard Class: ORM-D

NC - Negligible NA-- Not Applicable NE-- Not Established UN-- Unavailable ND-- Not Determined

MATERIAL SAFETY DATA SHEET

Date Printed: 03/03/2004

Date Updated: 08/06/2003

Version 1.11

Section 1 - Product and Company Information

Product Name	CHLOROFORM, 99.9%, A.C.S. HPLC GRADE
Product Number	270636
Brand	ALDRICH
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
CHLOROFORM	67-66-3	Yes
Formula	CHCl3	
Synonyms	Chloroform (ACGIH:OSHA) * Chloroforme (French) * Cloroformio (Italian) * Formyl trichloride * Methane trichloride * Methane, trichloro- * Methenyl trichloride * Methyl trichloride * NCI-C02686 * R 20 (Refrigerant) * RCRA waste number U044 * Trichloormethaan (Dutch) * Trichlormethan (Czech) * Trichloroform * Trichloromethane (OSHA) * Triclorometano (Italian)	
RTECS Number:	FS9100000	

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful.

Irritating to eyes and skin. Harmful if swallowed. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

Probable Carcinogen (US). Target organ(s): Liver. Cardiovascular system. Calif. Prop. 65 carcinogen.

HMIS RATING

HEALTH: 2*

FLAMMABILITY: 0

REACTIVITY: 1

NFPA RATING

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

INFORMATION FOR PHYSICIAN

Contamination of the eyes should be treated by immediate and prolonged irrigation with copious amounts of water.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Noncombustible. Use extinguishing media appropriate to surrounding fire conditions.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator in nonventilated areas and/or for exposure above the TLV or PEL.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	10 PPM
USA	MSHA Standard	Ceiling	50 PPM (240 MG/M3)
USA	OSHA.	PEL	CL 50 PPM (240 MG/M3)
New Zealand	OEL		
Remarks: check ACGIH TLV			
USA	NIOSH	STEL	2 PPM/60M

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	50 MG/M3
Poland		NDSch	225 MG/M3
Poland		NDSP	-

Section 9 - Physical/Chemical Properties

Appearance Physical State: Liquid
 Color: Colorless
 Form: Clear liquid

Property	Value	At Temperature or Pressure
Molecular Weight	119.38 AMU	
pH	N/A	
BP/BP Range	61 °C	
MP/MP Range	-63 °C	
Freezing Point	N/A	
Vapor Pressure	160 mmHg	20 °C
Vapor Density	4.1 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	1.48 g/cm3	
Bulk Density	N/A	
Odor Threshold	205 - 307 ppm	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	0.56 Pas	

Surface Tension	27.1 mN/m	20 °C
Partition Coefficient	Log Kow: 1.97	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	1.445	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Other Solvents: SOLUBLE IN CARBON DISULFIDE BENZENE, CARBON TETRACHLORIDE MISCIBLE WITH ALCOHOL, ET	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions of Instability: May decompose on exposure to light.

Materials to Avoid: Strong oxidizing agents, Strong bases,
Magnesium, Sodium, Lithium.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide,
Phosgene gas, Chlorine.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Skin absorption may occur.

Eye Contact: Causes eye irritation.

Inhalation: May be harmful if inhaled. Material may be
irritating to mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Cardiovascular system. Central nervous system. Blood. Liver.
Kidneys.

SIGNS AND SYMPTOMS OF EXPOSURE

Exposure can cause: Vomiting. Gastrointestinal disturbances.

Exposure to and/or consumption of alcohol may increase toxic
effects. To the best of our knowledge, the chemical, physical,
and toxicological properties have not been thoroughly
investigated.

CONDITIONS AGGRAVATED BY EXPOSURE

May cause nervous system disturbances.

TOXICITY DATA

Oral

Man

2514 mg/kg

LDLO

Remarks: Behavioral:Muscle contraction or spasticity.
Cardiac:Other changes. Kidney, Ureter, Bladder:Changes in
tubules (including acute renal failure, acute tubular necrosis).

Inhalation
Human
25,000 ppm
LCLO

Oral
Rat
695 mg/kg
LD50
Remarks: Behavioral:Change in motor activity (specific assay).
Behavioral:Ataxia. Lungs, Thorax, or Respiration:Respiratory
stimulation.

Inhalation
Rat
47,702 mg/m3
LC50

Intraperitoneal
Rat
894 MG/KG
LD50

Oral
Mouse
36 mg/kg
LD50

Intraperitoneal
Mouse
623 MG/KG
LD50

Subcutaneous
Mouse
704 MG/KG
LD50

Intraperitoneal
Dog
1 GM/KG
LD50
Remarks: Liver:Liver function tests impaired.

Skin
Rabbit
> 20000 mg/kg
LD50

Oral
Guinea pig
820 mg/kg
LD50

IRRITATION DATA

Skin
Rabbit

10 mg
24H
Remarks: Open irritation test

Skin
Rabbit
500 mg
24H
Remarks: Mild irritation effect

Eyes
Rabbit
148 mg

Eyes
Rabbit
20 mg
24H
Remarks: Moderate irritation effect

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification. The National Cancer Institute (NCI) has found clear evidence for carcinogenicity.

Species: Rat
Route of Application: Oral
Dose: 13832 MG/KG
Exposure Time: 2Y
Frequency: C
Result: Tumorigenic: Carcinogenic by RTECS criteria.
Blood: Leukemia

Species: Mouse
Route of Application: Oral
Dose: 127 GM/KG
Exposure Time: 92W
Frequency: I
Result: Tumorigenic: Carcinogenic by RTECS criteria. Liver: Tumors.

Species: Rat
Route of Application: Oral
Dose: 98 GM/KG
Exposure Time: 78W
Frequency: I
Result: Tumorigenic: Neoplastic by RTECS criteria. Kidney, Ureter, Bladder: Kidney tumors. Endocrine: Thyroid tumors.

Species: Mouse
Route of Application: Oral
Dose: 18 GM/KG
Exposure Time: 17W
Frequency: I
Result: Tumorigenic: Neoplastic by RTECS criteria. Liver: Tumors.

Species: Rat
Route of Application: Oral
Dose: 7020 MG/KG
Exposure Time: 78W
Frequency: I
Result: Tumorigenic: Carcinogenic by RTECS criteria.

Liver:Tumors. Kidney, Ureter, Bladder:Kidney tumors.

Species: Rat
Route of Application: Oral
Dose: 70 GM/KG
Exposure Time: 78W
Frequency: I
Result: Tumorigenic:Neoplastic by RTECS criteria. Kidney,
Ureter, Bladder:Kidney tumors. Endocrine:Thyroid tumors.

Species: Mouse
Route of Application: Oral
Dose: 24752 MG/KG
Exposure Time: 2Y
Frequency: C
Result: Tumorigenic:Equivocal tumorigenic agent by RTECS
criteria. Liver:Tumors.

Species: Rat
Route of Application: Oral
Dose: 58968 MG/KG
Exposure Time: 2Y
Frequency: C
Result: Tumorigenic:Neoplastic by RTECS criteria.
Endocrine:Thyroid tumors. Blood:Tumors.

Species: Mouse
Route of Application: Oral
Dose: 130 GM/KG
Exposure Time: 2Y
Frequency: I
Result: Tumorigenic:Neoplastic by RTECS criteria. Liver:Tumors.
Kidney, Ureter, Bladder:Tumors.

IARC CARCINOGEN LIST

Rating: Group 2B

NTP CARCINOGEN LIST

Rating: Clear evidence.
Species: Mouse/rat
Route: Gavage

IRIS/EPA CARCINOGEN LIST

Rating: Group B2
Species: Rat, mouse
Route: Gavage

CHRONIC EXPOSURE - TERATOGEN

Species: Rat
Dose: 1260 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death,
e.g., stunted fetus). Specific Developmental Abnormalities:
Musculoskeletal system.

Species: Rat
Dose: 4 GM/KG
Route of Application: Oral

Exposure Time: (6-15D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rat
Dose: 100 PPM/7H
Route of Application: Inhalation
Exposure Time: (6-15D PREG)
Result: Specific Developmental Abnormalities: Gastrointestinal system. Specific Developmental Abnormalities: Homeostasis

Species: Rat
Dose: 20100 UG/M3/1H
Route of Application: Inhalation
Exposure Time: (7-14D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Embryo or Fetus: Fetal death.

Species: Mouse
Dose: 100 PPM/7H
Route of Application: Inhalation
Exposure Time: (8-15D PREG)
Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

Species: Rabbit
Dose: 260 MG/KG
Route of Application: Oral
Exposure Time: (6-18D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

CHRONIC EXPOSURE - MUTAGEN

Result: Laboratory experiments have shown mutagenic effects.

Species: Human
Dose: 19 MMOL/L
Cell Type: HeLa cell
Mutation test: DNA inhibition

Species: Human
Dose: 10 MMOL/L
Cell Type: lymphocyte
Mutation test: Sister chromatid exchange

Species: Rat
Route: Oral
Dose: 4 MMOL/KG
Mutation test: Micronucleus test

Species: Rat
Route: Oral
Dose: 1 GM/KG
Mutation test: Unscheduled DNA synthesis

Species: Rat
Route: Intraperitoneal
Dose: 1200 UG/KG
Mutation test: Cytogenetic analysis

Species: Rat

Route: Oral
Dose: 597 MG/KG
Exposure Time: 5D
Mutation test: Cytogenetic analysis

Species: Rat
Dose: 1 MMOL/L
Cell Type: leukocyte
Mutation test: Sister chromatid exchange

Species: Mouse
Dose: 12 MG/L (+S9)
Cell Type: lymphocyte
Mutation test: Mutation in microorganisms

Species: Mouse
Route: Intraperitoneal
Dose: 50 MG/KG
Mutation test: Unscheduled DNA synthesis

Species: Mouse
Route: Inhalation
Dose: 300 PPM
Exposure Time: 6H
Mutation test: Sister chromatid exchange

Species: Mouse
Route: Oral
Dose: 200 MG/KG
Exposure Time: 4D
Mutation test: Sister chromatid exchange

Species: Mouse
Route: Inhalation
Dose: 400 PPM
Exposure Time: 4H/5D
Mutation test: sperm

Species: Hamster
Dose: 4430 MG/L
Cell Type: kidney
Mutation test: Morphological transformation.

Species: Hamster
Dose: 1 PPH
Cell Type: fibroblast
Mutation test: Other mutation test systems

Species: Hamster
Dose: 100 UMOL/L
Cell Type: Embryo
Mutation test: Sister chromatid exchange

Species: Hamster
Dose: 60 MMOL/L
Cell Type: lung
Mutation test: SLN

Species: Hamster
Dose: 1 MG/L
Cell Type: lung
Mutation test: Mutation in mammalian somatic cells.

Species: Mammal
Dose: 1 MMOL/L
Cell Type: lymphocyte
Mutation test: DNA

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 30 PPM/7H
Route of Application: Inhalation
Exposure Time: (6-15D PREG)
Result: Effects on Fertility: Other measures of fertility
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rat
Dose: 300 PPM/7H
Route of Application: Inhalation
Exposure Time: (6-15D PREG)
Result: Effects on Fertility: Female fertility index (e.g., # females pregnant per # sperm positive females; # females pregnant per # females mated). Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Mouse
Dose: 2177 MG/KG
Route of Application: Oral
Exposure Time: (3W MALE/3W PRE-7D POST)
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Biochemical and metabolic.

Species: Mouse
Dose: 2115 MG/KG
Route of Application: Oral
Exposure Time: (3W MALE/3W PRE-5D POST)
Result: Effects on Newborn: Other postnatal measures or effects.

Species: Mouse
Dose: 100 PPM/7H
Route of Application: Inhalation
Exposure Time: (1-7D PREG)
Result: Effects on Fertility: Female fertility index (e.g., # females pregnant per # sperm positive females; # females pregnant per # females mated). Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Algae
Time: 24 h
Value: 500 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 24 h

Value: 79 mg/l

Test Type: LC50 Fish
Species: Leuciscus idus
Time: 48 h
Value: 162 mg/l

Test Type: LC100 Fish
Species: Leuciscus idus
Time: 48 h
Value: 220 mg/l

Test Type: LC50 Fish
Time: 4 days
Value: 97 mg/l

Test Type: LC50 Fish
Species: Brachydanio rerio
Time: 96 h
Value: 121 mg/l

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Chloroform
UN#: 1888
Class: 6.1
Packing Group: Packing Group III
Hazard Label: Keep away from food
PIH: Not PIH

IATA

Proper Shipping Name: Chloroform
IATA UN Number: 1888
Hazard Class: 6.1
Packing Group: III

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 22 38 40 48/20/22
Risk Statements: Harmful if swallowed. Irritating to skin. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
S: 36/37
Safety Statements: Wear suitable protective clothing and gloves.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Harmful.
Risk Statements: Harmful if swallowed. Irritating to eyes and skin. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through

inhalation and if swallowed.

Safety Statements: Wear suitable protective clothing and gloves.

US Statements: Probable Carcinogen (US). Target organ(s): Liver.

Cardiovascular system. Calif. Prop. 65 carcinogen.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes

DEMINIMIS: 0.1 %

NOTES: This product is subject to SARA section 313 reporting requirements.

TSCA INVENTORY ITEM: Yes

UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65

California Prop - 65: This product is or contains chemical(s) known to the state of California to cause cancer.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.




**ALDON
CORPORATION**

MATERIAL SAFETY DATA SHEET

1533 W. Henrietta Rd.
Avon, New York 14414
(716) 226-6177

MSDS No. CC 330
Effective Date December 28, 1995

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	CHLOROPHYLL EXTRACT				<div><div>CHEMTREC 800-424-9300 Day 716-226-6177</div><div>NFPA HAZARD RATING</div><table><tr><td>LEAST</td><td>SLIGHT</td><td>MODERATE</td><td>HIGH</td><td>EXTREME</td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr></table><div>HMIS*</div><table><tr><td>Health</td><td>0</td></tr><tr><td>Fire</td><td>0</td></tr><tr><td>Reactivity</td><td>0</td></tr></table></div>	LEAST	SLIGHT	MODERATE	HIGH	EXTREME	0	1	2	3	4	Health	0	Fire	0	Reactivity	0
LEAST	SLIGHT	MODERATE	HIGH	EXTREME																	
0	1	2	3	4																	
Health	0																				
Fire	0																				
Reactivity	0																				
Chemical Synonyms	Sodium Copper Chlorophyllin																				
Formula	C ₃₄ H ₃₀ O ₅ N ₄ CuNa ₂																				
Unit Size	up to 2.5 Kg.																				
C.A.S. No.	11006-34-1																				

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Sodium Copper Chlorophyllin	100%	None established.
LOW HAZARDOUS MATERIAL.		

SECTION III PHYSICAL DATA

Melting Point (°F)	Unknown.	Specific Gravity (H ₂ O = 1)	Unknown.
Boiling Point (°F)	Decomposes.	Percent Volatile by Volume (%)	Negligible as solid.
Vapor Pressure (mm Hg)	Negligible as solid.	Evaporation Rate (=1)	Not applicable.
Vapor Density (Air=1)	Unknown.		
Solubility in Water	Freely soluble.		
Appearance & Odor	Bluish-black powder; odorless or slight characteristic odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Non-volatile solid (NA).	Flammable Limits in Air % by Volume	NA	Lower	Upper
				-----	-----
Extinguisher Media	Use any media suitable for extinguishing supporting fire.				

SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH/MSHA-approved, self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Fire or excessive heat may produce hazardous decomposition products; can react vigorously with oxidizing materials.

SECTION V HEALTH HAZARD DATA

CC 330

Threshold Limited Value None established. TWA Copper: As fume 0.2 mg/m³; dust mists 1 mg/m³ (ACGIH 1992-93).

Effects of Overexposure

Non-hazardous. Normally used as a food colorant. Exercise appropriate procedures to minimize potential hazards.

Emergency and First Aid Procedures

EYES: Flush thoroughly with water, lifting lower and upper eyelids occasionally. If irritation persists, get medical attention. **SKIN:** Flush thoroughly with water, then wash with mild soap and water. **INHALATION:** Remove to fresh air. If discomfort or illness develops, get medical attention.

SECTION VI REACTIVITY DATA

Stability	Unstable		Conditions to Avoid	Excessive temperature and heat.
	Stable	X		

Incompatibility (Materials to Avoid) Strong oxidizers.

Hazardous Decomposition Products Thermal decomposition will produce carbon dioxide and probably carbon monoxide, oxides of sodium and copper.

Hazardous Polymerization		Conditions to Avoid	Not applicable.
May Occur	Will Not Occur		
	X		

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled Recover for use if not contaminated. Wear protective safety equipment and use adequate ventilation. Avoid making dust. Sweep up and place in a suitable container for disposal.

Waste Disposal Method Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only. Dispose of in an approved incinerator or if uncontaminated, in a sanitary landfill. Check local codes.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	None should be needed in normal laboratory handling. If dusty conditions prevail, work in a fume hood or wear a NIOSH/MSHA-approved dust mask.		
Ventilation	Local Exhaust	Recommended.	Special
	Mechanical (General)	Recommended if dusty.	Other

Protective Gloves Rubber. **Eye Protection** Chemical safety glasses.

Other Protective Equipment Goggles, lab coat, ventilation hood, proper gloves, eye wash station.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Store in a cool, dry place and protect from light. Wash thoroughly after handling.

Keep container tightly closed when not in use.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals.

Remove and wash contaminated clothing.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision	No. 3	Date	12/28/95	Approved	Michael Raszeja	Chemical Safety Coordinator	MR
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The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards. Printed on recycled paper.

D.O.T. NON-REGULATED.

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

✓ Rcvd 08-16-01
Material Safety Data Sheet

CHROMA ACRYLICS, INC.

Manufacturer

205 BUCKY DRIVE

Address

LITITZ, PA 17543

(717) 626-8866

Phone Number (For Information)

(717) 626-8866

Emergency Phone Number

Telex*

CHROMACRYL STUDENTS' ACRYLICS

Identity (Trade Name As Used On Label)

MSDS Number*

CAS Number*

Date Prepared

Prepared By*

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

00709 - all Codes

except

-1006

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS — Chemical Name & Common Names (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	% *	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED
PRODUCT IS WATER BASED, NON-TOXIC, NON- HAZARDOUS ACRYLIC COLORS IN LIQUID FORM. CERTIFIED NON-TOXIC BY (ART & CRAFT MATERIALS INSTITUTE).				
1. WATER				
2. VARIOUS COLORED PIGMENTS				
3. ACRYLIC EMULSION				
4. ACRYLIC THICKENERS				
5. PRESERVATIVE-NON HAZARDOUS AT LEVEL USED.				
*ALL INGREDIENTS THE SAME FOR TUBES, PINTS, Non-Hazardous Ingredients AND HALF GALLONS.				
TOTAL	100			

SECTION 2 - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point 215-275°F	Specific Gravity (H ₂ O = 1) NOT KNOWN
Vapor Pressure (mm Hg and Temperature) NOT KNOWN	Melting Point NOT KNOWN
Vapor Density (Air = 1) LIGHTER THAN AIR	Evaporation Rate (= 1) SLOWER THAN ETHER
Solubility in Water TOTALLY SOLUBLE	Water Reactive NOT KNOWN

Appearance and Odor

LIQUID ACRYLIC PAINTS IN ASSORTED COLORS.

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flash Point and Method Used N/A	Auto-Ignition Temperature N/A	Flammability Limits in Air % by Volume N/A	LEL UNKNOWN	UEL UNKNOWN
Extinguisher Media N/A				
Special Fire Fighting Procedures N/A				

Unusual Fire and Explosion Hazards

N/A

PAGE 2-CHROMACRYL STUDENTS' ACRYLICS

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable	Conditions To Avoid N/A
Incompatibility (Materials to Avoid)	NONE
Hazardous Decomposition Products	NONE
HAZARDOUS POLYMERIZATION <input type="checkbox"/> May Occur <input checked="" type="checkbox"/> Will Not Occur	Conditions To Avoid N/A

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY	<input type="checkbox"/> Inhalation <input type="checkbox"/> Skin Absorption	<input type="checkbox"/> Ingestion <input checked="" type="checkbox"/> Not Hazardous	CARCINOGEN LISTED IN	<input type="checkbox"/> NTP <input type="checkbox"/> IARC Monograph	<input type="checkbox"/> OSHA <input checked="" type="checkbox"/> Not Listed
HEALTH HAZARDS	Acute NONE	Chronic NONE			
Signs and Symptoms of Exposure NONE					
Medical Conditions Generally Aggravated by Exposure NONE					
EMERGENCY FIRST AID PROCEDURES - Seek medical assistance for further treatment, observation and support if necessary.					
Eye Contact NONE					
Skin Contact NONE					
Inhalation NONE					
Ingestion NONE					

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (Specify Type)	NONE NEEDED UNDER NORMAL CONDITIONS OF USE				
Protective Gloves	NOT REQUIRED	Eye Protection	NOT REQUIRED		
VENTILATION TO BE USED	<input type="checkbox"/> Local Exhaust N/A	<input type="checkbox"/> Mechanical (general) N/A	<input type="checkbox"/> Special N/A		
<input type="checkbox"/> Other (specify) N/A					
Other Protective Clothing and Equipment	NOT REQUIRED				
Hygienic Work Practices	AS WITH ANY WATER BASED PRODUCT				

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE / LEAK PROCEDURES

Steps to be Taken if Material Is Spilled Or Released	DIKE AND CONTAIN SPILL WITH INERT MATERIALS (SAND, SAWDUST, ETC.) AND TRANSFER TO CONTAINERS FOR DISPOSAL.
Waste Disposal Methods	NORMAL DISPOSAL
Precautions to be Taken in Handling and Storage	NO PARTICULAR PRECAUTIONS
Other Precautions and/or Special Hazards	NONE

Material Safety Data Sheet

CHROMA INC
Manufacturer
205 BUCKY DRIVE
Address
LITITZ PA 17543
(717)626-8866
Phone Number (For Information)
(717)626-8866
Emergency Phone Number Telex*

CHROMACRYL TEXTILE MEDIUM

Identity (Trade Name As Used On Label)
MSDS Number*
CAS Number* 01/07
Date Prepared
Prepared By*
Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS — Chemical Name & Common Names (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	% *	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED
PRODUCT IS AN ACRYLIC SOLUTION OPAQUE IN COLOR AND				
IS CERTIFIED NON-TOXIC BY THE ART AND CREATIVE				
MATERIALS INSTITUTE.				
1. ACRYLIC EMULSION				
2. AMMONIA				
3. PRESERVATIVE - RATED NON-TOXIC AT RATE USED (.4%)				
* INGREDIENTS LISTED ARE THE SAME FOR ALL SIZES				
OF THIS PRODUCT				
Non-Hazardous Ingredients				
TOTAL	100			

SECTION 2 - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point 215-275°F	Specific Gravity (H ₂ O = 1) NOT KNOWN
Vapor Pressure (mm Hg and Temperature) NOT KNOWN	Melting Point NOT KNOWN
Vapor Density (Air = 1) LIGHTER THAN AIR	Evaporation Rate (= 1) SLOWER THAN ETHER
Solubility in Water TOTALLY SOLUBLE	Water Reactive NOT KNOWN

Appearance and Odor MILKY IN APPEARANCE, NO ODOR

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flash Point and Method Used N/A	Auto-Ignition Temperature N/A	Flammability Limits in Air % by Volume N/A	LEL UNKNOWN	UEL UNKNOWN
Extinguisher Media N/A				
Special Fire Fighting Procedures N/A				

Unusual Fire and Explosion Hazards N/A

*Optional

SECTION 4 - REACTIVITY HAZARD DATA

PAGE 2 - CHROMACRYL TEXTILE MEDIUM

STABILITY☒ Stable
☐ UnstableConditions
To Avoid

N/A

Incompatibility
(Materials to Avoid) **NONE**Hazardous
Decomposition Products **NONE****HAZARDOUS POLYMERIZATION**☐ May Occur
☒ Will Not OccurConditions
To Avoid

N/A

SECTION 5 - HEALTH HAZARD DATA**PRIMARY ROUTES
OF ENTRY**☐ Inhalation☐ Skin Absorption☐ Ingestion☒ Not Hazardous**CARCINOGEN
LISTED IN**☐ NTP☐ IARC Monograph☐ OSHA☒ Not Listed**HEALTH HAZARDS**Acute **NONE**Chronic **NONE**Signs and Symptoms
of Exposure **NONE**Medical Conditions
Generally Aggravated by Exposure **NONE****EMERGENCY FIRST AID PROCEDURES** - Seek medical assistance for further treatment, observation and support if necessary.Eye Contact **NONE**Skin Contact **NONE**Inhalation **NONE**Ingestion **NONE****SECTION 6 - CONTROL AND PROTECTIVE MEASURES**Respiratory Protection
(Specify Type) **NONE NEEDED UNDER NORMAL CONDITIONS OF USE**Protective Gloves **NOT REQUIRED**Eye Protection **NOT REQUIRED****VENTILATION
TO BE USED**☐ Local Exhaust **N/A**☐ Mechanical (general) **N/A**☐ Special **N/A**☐ Other (specify) **N/A**Other Protective
Clothing and Equipment **NOT REQUIRED**Hygienic Work
Practices **AS WITH ANY WATER BASED ACRYLIC****SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE / LEAK PROCEDURES**Steps to be Taken If Material
Is Spilled Or Released **DIKE AND CONTAIN SPILL WITH INERT MATERIALS (SAND, SAWDUST, ETC.) AND
TRANSFER TO CONTAINERS FOR DISPOSAL.**Waste Disposal
Methods **NORMAL DISPOSAL**Precautions to be Taken
in Handling and Storage **NO PARTICULAR PRECAUTIONS**Other Precautions and/or Special Hazards **NONE**NFPA
Rating* Health____ Flammability____ Reactivity____ Special____ HMIS
Rating* Health____ Flammability____ Reactivity____ Personal Protection____

*Optional

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Reorder No. 2217-2

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 236.50

Revision Date: April 24, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chromatography Solvent

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 2). Highly flammable liquid and vapor (H225). Keep away from heat, sparks, open flames, and hot surfaces (P210).

Hazard class: Aspiration hazard (Category 1). May be fatal if swallowed and enters airways (H304).

Hazard class: Germ cell mutagenicity (Category 1). May cause genetic defects (H340). Obtain special instructions before use (P201). Do not handle until all safety precautions have been read and understood (P202). Use personal protective equipment as required (P281).

Hazard class: Carcinogenicity (Category 1). May cause cancer (H350). Obtain special instructions before use (P201).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Petroleum ether	8032-32-4	Unspecified	Unspecified	80-90%
Acetone	67-64-1	CH ₃ COCH ₃	58.08	10-20%

SECTION 4 — FIRST AID MEASURES

If exposed or concerned: Get medical advice or attention (P308+P313).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353).

If swallowed: Immediately call a POISON CENTER or physician (P301+P310). Do NOT induce vomiting (P331).

SECTION 5 — FIRE FIGHTING MEASURES

Flammable liquid.

Dangerous fire risk. Avoid contact with heat, sparks, or open flames.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA CODE

None

established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain the spill with sand or other inert absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #4. Store with ethers, ketones, and halogenated hydrocarbons. Store in a dedicated flammables cabinet. If a flammables cabinet is not available, store in Flinn Saf-Stor™ can.

Keep container tightly closed (P233). Keep cool (P235). Use only in a hood or well-ventilated area (P271). Take precautionary measures against static discharge (P243).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective latex gloves, protective clothing, and eye protection (P280). Use latex, not nitrile gloves. Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: (as acetone) PEL 1000 ppm (OSHA); TLV 500 ppm, STEL 750 ppm (ACGIH); IDLH 2500 ppm

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless, volatile liquid. Natural gas-like odor.

SECTION 10 — STABILITY AND REACTIVITY

Avoid oxidizing agents. Avoid all sources of ignition.

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Skin, eye, and respiratory tract irritant, dizziness, CNS depression.

Chronic effects: Dermatitis.

Target organs: Liver, kidneys, CNS, respiratory system.

ORL-RAT LD₅₀: 5800 mg/kg for acetone

IHL-RAT LC₅₀: 50,100 mg/m³/8H for acetone

SKN-RBT LD₅₀: 20 g/kg for acetone

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #18b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Petroleum Distillates, n.o.s. Hazard class: 3, Flammable liquid. UN number: UN1268

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: April 24, 2015

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 241.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chromium Potassium Sulfate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral and inhalation (Category 5). May be harmful if swallowed or inhaled (H303+H333).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2B). Causes skin and eye irritation (H315+H320).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Chromium potassium sulfate, dodecahydrate	7788-99-0	$\text{CrK}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$	499.43	
Synonyms: Chromium(III) potassium sulfate; Chrome alum; Chromic potassium sulfate				

SECTION 4 — FIRST AID MEASURES

If exposed or concerned: Get medical advice or attention (P308+P313)

If inhaled: Remove victim to fresh air in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Rinse cautiously with water for several minutes (P351).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool, dry place. Store in a Flinn Chem-Saf™ bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).
Exposure guidelines: PEL 0.5 mg/m³ (OSHA); TLV 0.5 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Red-violet crystals. Odorless.
Soluble: Water

Melting point: 89 °C
Specific gravity: 1.8

SECTION 10 — STABILITY AND REACTIVITY

Avoid heat.
Shelf life: Fair to poor, efflorescent. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.
Chronic effects: N.A.
Target organs: Skin.

ORL-RAT LD₅₀: 3530 mg/kg
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #27f is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (233-401-6).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 25, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 244.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Citric Acid

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2B). Causes skin and eye irritation (H315+H320).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Citric acid anhydrous	77-92-9	C ₆ H ₈ O ₇	192.14	
Synonym: 2-Hydroxy-1,2,3-propanetricarboxylic acid				

SECTION 4 — FIRST AID MEASURES

Get medical advice or attention if skin or eye irritation persist (P313+P337+P332).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. (P305+P351+P338). **If on skin:** Wash with plenty of water (P302+P352). Take off contaminated clothing and wash before reuse (P362).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Combustible solid.

Flash point: 155 °C Autoignition Temperature: 345 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids.
Store in a cool, dry place. Store in a Flinn Chem-SafTM bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White granules. Odorless.
Soluble: Water, alcohol, and ether

Boiling point: 310 °C
Melting point: 153 °C
Specific gravity: 1.665

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with oxidizers, bases, and reducing agents.
Shelf life: Poor, efflorescent. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Eye and skin irritant.
Chronic effects: N.A.
Target organs: Eyes, skin.

ORL-RAT LD₅₀: 3g/kg
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (201-069-1).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014



Safety Data Sheet

Spartan Chemical Company, Inc.

Revision Date: 11-Aug-2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: CITRO SHIELD FURNITURE POLISH
Product Number: 6120
Recommended Use: Furniture polish
Uses Advised Against: For Industrial and Institutional Use Only

Manufacturer/Supplier: Spartan Chemical Company, Inc.
1110 Spartan Drive
Maumee, Ohio 43537 USA
800-537-8990 (Business hours)
www.spartanchemical.com

24 Hour Emergency Phone Numbers:

Medical Emergency/Information: 888-314-6171
Transportation/Spill/Leak: CHEMTREC 800-424-9300

2. HAZARDS IDENTIFICATION

GHS Classification

Flammable Aerosols
Gases Under Pressure

Category 1
Liquefied gas

GHS Label Elements

Signal Word:

Symbols:

No signal word



Hazard Statements:

Extremely flammable aerosol.
Contains gas under pressure; may explode if heated

Precautionary Statements:

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Do not spray on an open flame or other ignition source
Pressurized container: Do not pierce or burn, even after use
Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.

Response:

-Specific Treatment:

See Safety Data Sheet Section 4: "FIRST AID MEASURES" for additional information.

Storage:

Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C) Store in a well-ventilated place

Disposal:

Not Applicable

Hazards Not Otherwise Classified: Not Applicable

Other Information:

- May cause skin irritation.
- May cause eye irritation.
- May be harmful if swallowed.
- Inhalation of vapors or mist may cause respiratory irritation.
- Keep out of reach of children.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
water	7732-18-5	60-100
polydimethylsiloxane	63148-62-9	1-5
isobutane	75-28-5	1-5
carnauba wax	8015-86-9	0.1-1

Specific chemical identity and/or exact percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

- Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
- Skin Contact:** Wash with soap and water. If skin irritation occurs: Get medical attention.
- Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison control center or physician if you feel unwell.
- Ingestion:** Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if you feel unwell.
- Note to Physicians:** Treat symptomatically.

5. FIRE-FIGHTING MEASURES

- Suitable Extinguishing Media:** Water spray (fog), Foam
- Specific Hazards Arising from the Chemical:** Extremely flammable aerosol. Exposure to high temperature may cause containers to burst. Bursting aerosol containers may be propelled from fire at high speed.
- Hazardous Combustion Products:** May include Carbon monoxide Carbon dioxide and other toxic gases or vapors.
- Protective Equipment and Precautions for Firefighters:** Wear MSHA/NIOSH approved self-contained breathing apparatus (SCBA) and full protective gear. Water may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

6. ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.
- Environmental Precautions:** Do not rinse spill onto the ground, into storm sewers or bodies of water.
- Methods for Clean-Up:** Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

7. HANDLING AND STORAGE

- Advice on Safe Handling:** Handle in accordance with good industrial hygiene and safety practice. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Wash thoroughly after handling.
- Storage Conditions:** NFPA 30B Level 1 Aerosol. Do not store in direct sunlight or above 122 F° / 50 C°. Exposure to high temperature may cause containers to burst. Keep out of the reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH
isobutane 75-28-5	TWA: 1000 ppm	-	TWA: 800 ppm TWA: 1900 mg/m ³

Engineering Controls:

Provide good general ventilation.

If work practices generate dust, fumes, gas, vapors or mists which expose workers to chemicals above the occupational exposure limits, local exhaust ventilation or other engineering controls should be considered.

Personal Protective Equipment

Eye/Face Protection:

Not required with expected use.

Skin and Body Protection:

Not required with expected use.

Respiratory Protection:

Not required with expected use.

If occupational exposure limits are exceeded or respiratory irritation occurs, use of a NIOSH/MSHA approved respirator suitable for the use-conditions and chemicals in Section 3 should be considered.

General Hygiene Considerations:

Wash hands and any exposed skin thoroughly after handling.

See 29 CFR 1910.132-138 for further guidance.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State:	Aerosol
Color:	White emulsion
Odor:	Lemon
pH:	6.5-7.5
Melting Point / Freezing Point:	No information available.
Boiling Point / Boiling Range:	99 °C / 210 °F (Product without propellant)
Flash Point:	< -18 °C / < 0 °F (Propellant-estimated)
Evaporation Rate:	< 1 (Butyl acetate = 1)
Flammability (solid, gas)	No information available.
Upper Flammability Limit:	No information available.
Lower Flammability Limit:	No information available.
Vapor Pressure:	No information available.
Vapor Density:	No information available.
Specific Gravity:	0.96 (Product without propellant)
Solubility(ies):	No information available.
Partition Coefficient:	No information available.
Autoignition Temperature:	No information available.
Decomposition Temperature:	No information available.
Viscosity:	No information available.

10. STABILITY AND REACTIVITY

Reactivity:

This material is considered to be non-reactive under normal conditions of use.

Chemical Stability:

Stable under normal conditions.

Possibility of Hazardous Reactions:

Not expected to occur with normal handling and storage.

Conditions to Avoid:

Extremes of temperature and direct sunlight.

Incompatible Materials:

Strong oxidizing agents. Strong acids.

Hazardous Decomposition

May include carbon monoxide, carbon dioxide (CO₂) and other toxic gases or vapors.

Products:

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:

Eyes, Skin, Ingestion, Inhalation.

Symptoms of Exposure:

-Eye Contact:

Pain and redness.

-Skin Contact:

Drying of the skin.

-Inhalation: Nasal discomfort and coughing.
-Ingestion: Pain, nausea, vomiting and diarrhea.
Immediate, Delayed, Chronic Effects
Product Information: Data not available or insufficient for classification.

Target Organ Effects: Central nervous system.

Numerical Measures of Toxicity

The following acute toxicity estimates (ATE) are calculated based on the GHS document.

ATEmix (dermal): 40650 mg/kg
 ATEmix (inhalation-gas): 6524651 mg/l

Component Acute Toxicity Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
water 7732-18-5	> 90 mL/kg (Rat)	Not Available	Not Available
polydimethylsiloxane 63148-62-9	> 17 g/kg (Rat)	> 2 g/kg (Rabbit)	Not Available
isobutane 75-28-5	Not Available	Not Available	= 658 mg/L (Rat) 4 h

Carcinogenicity: No components present at 0.1% or greater are listed as to being carcinogens by ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Persistence and Degradability: No information available.
Bioaccumulation: No information available.

Other Adverse Effects: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal of Wastes: Dispose of in accordance with federal, state and local regulations.
Contaminated Packaging: Pressurized container: Do not pierce or burn, even after use. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT:
UN/ID No: UN1950
Proper Shipping Name: Aerosols
Hazard Class: 2.1
Special Provisions: This product meets the exception requirements of section 49 CFR 173.306 as a limited quantity and may be shipped as a limited quantity.

IMDG:
UN/ID No: UN1950
Proper Shipping Name: Aerosols
Hazard Class: 2.1
Additional information: Limited Quantity

15. REGULATORY INFORMATION

TSCA Status: (Toxic Substance Control Act Section 8(b) Inventory)

All chemical substances in this product are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

SARA 313

This product does not contain listed substances above the "de minimus" level

SARA 311/312 Hazard Categories

Acute Health Hazard:	Yes
Chronic Health Hazard:	No
Fire Hazard:	No
Sudden release of pressure hazard:	Yes
Reactive Hazard:	No

California Proposition 65

This product is not subject to warning requirements under California Proposition 65.

16. OTHER INFORMATION

NFPA	Health Hazards: 1	Flammability: 2	Instability: 0	Special: N/A
HMIS	Health Hazards: 1	Flammability: 2	Physical Hazards: 2	

Revision Date:	11-Aug-2015
Reasons for Revision:	Section 14 and 15

Disclaimer:

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

HILLYARD INDUSTRIES

SAFETY DATA SHEET

1. Identification

Product Identifier: HILLYARD #106 CRÈME CLEANSER

Application or recommended use: Scouring cleanser

Restrictions on use: Do not use in any fashion not specified on the product label.

Manufacturer / supplier: Hillyard Industries

302 N. Fourth Street

St. Joseph, MO 64501 USA

Telephone: 1-816-233-1321

Emergency phone: 1-800-424-9300

National Poison Center: 1-800-222-1222

2. Hazards Identification

GHS Classification: Classification of this mixture in accordance with paragraph (d) of §1910.1200.

Acute Toxicity (Oral) - Category 4

Skin Corrosion/Irritation - Category 2

Eye Damage/Irritation - Category 1

Label Elements:



Symbol:

Signal word:

DANGER

Hazard statements:

Harmful if swallowed.

Causes skin irritation.

Causes serious eye damage.

Precautionary statements: Wash hands, face and any skin contact thoroughly after handling.

Wear protective gloves/eye protection/face protection.

Do not eat, drink or smoke when using this product.

IF SWALLOWED: Rinse mouth. Call a poison center/doctor if you feel unwell.

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Get medical advice/attention if you feel unwell.

See 4. First-Aid Measures for specific treatment.

Dispose of contents/container to an approved disposal facility.

Other Hazards: None known

3. Composition / Information on Ingredients

Chemical characterization: Mixture of water, silica, detergents, and auxiliary agents.

Hazardous ingredients: The exact percentage of composition has been withheld as a trade secret.

35 - 40% Silica CAS 14808-60-7, EINECS/ELINCS 238-874-4

5 - 10% C₉₋₁₁ Alcohol ethoxylate CAS 68439-46-3, EINECS/ELINCS N/A

5 - 10% Sulfonic acid, CAS 27176-87-0, EINECS/ELINCS 248-289-4

Other ingredients (> 1%):

> 50% Water CAS 7732-18-5, EINECS/ELINCS 231-791-2

4. First-Aid Measures

Symptoms: Burning or irritation of affected areas. Causes skin irritation and serious eye damage.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Inhalation: Move person to fresh air and keep comfortable for breathing.

Skin Contact: Remove contaminated clothing and wash before reuse. Wash contaminated area with soap and water for 15-20 minutes. If skin irritation occurs, get medical advice/attention.

Eye Contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to a person who is unconscious or convulsing. If vomiting occurs, keep head below hips to reduce risk of aspiration.

Note to Physician: Treat exposed patients symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Not applicable. Product is not a fire hazard.

Unsuitable Extinguishing Media: High pressure water jet.

Specific hazards in case of fire: None known.

Special Fire Fighting Precautions: Fire fighters should wear appropriate protective equipment, including self-contained breathing apparatus and impervious clothing.

6. Accidental Release Measures

Emergency Procedures: Depending on the extent of release, consider the need for restriction of access to spill area.

Personal Precautions: Do not eat, drink or smoke during clean up. Wear protective clothing, eye protection and impervious gloves (e.g. neoprene). Wash thoroughly after clean up.

Environmental Precautions: Prevent spills from entering storm sewers/drains or contact with soil.

Clean up Methods: Small spills may be wiped up and rinsed with water. For larger spills, contain spill with inert material (sand, clay). Transfer material to labeled containers for recovery or proper disposal. After removal, flush area with water. Follow good industrial hygiene practices.

7. Handling and Storage

Precautions for Safe Handling: Read label before use. Avoid contact with skin or eyes. Wear protective gloves, eye protection, face protection. Use product only according to label directions. If unsure about safe use, contact your supervisor. Do not eat, drink or smoke while using this product. Wash hands, face and any skin contact thoroughly after handling.

Conditions for Safe Storage: Do not contaminate water, food or feed by storage and disposal. Store in tightly closed, original container in a cool (10° - 30°C), dry area. Keep in an area inaccessible to children.

Incompatibility: None known.

8. Exposure Controls / Personal Protection

Components with occupational exposure limits: None

Component	Reference	TWA	PEL
Silica	ACGIH(TLV)	0.025 mg/m ³	
	OSHA		0.1 mg/m ³
	NIOSH(REL)	0.05 mg/m ³	

Engineering Controls: Proper ventilation in accordance with good industrial hygiene should be provided.

Personal Protective Equipment

Respiratory: Respiratory protection is not necessary under normal conditions of use. If necessary to prevent exposure above occupational limits, use an approved cartridge style respirator.

Gloves: Use water impervious gloves (latex or neoprene rubber). No breakthrough time has been established.

Eye Protection: Chemical resistant goggles or face protection.

Other: Protective clothing (long sleeves, pants), eyewash, safety shower are always advisable when working with chemicals.

9. Physical and Chemical Properties

Physical State - Slurry	Auto-ignition temperature - Not applicable
Color - White	Flash Point - None
Odor - Mint	Flammability - Not applicable
Odor Threshold - Not available	Flammability Limits - Not applicable
Boiling Point - 212°F	Partition coefficient - Not applicable
Decomposition temperature - No data available	Solubility (Water) - Complete
Freezing Point - 32°F	Vapor Density - Not available
pH (Neat) - 2.1 - 3.1	Vapor Pressure - Not available
Relative Density - 1.20 - 1.30	Viscosity - Viscous slurry
Evaporation Rate - Similar to water	% VOC - < 1 (Excluding exempt material)

10. Stability and Reactivity

Reactivity: No specific reactivity test data is available for this mixture. Under normal conditions of storage and use, hazardous reactions are not expected.

Incompatible materials: Oxidizers, anionic detergents.

Chemical stability: This product is stable at ambient temperatures and pressures.

Conditions to avoid: Temperatures above 50°C or below 10°C.

Hazardous decomposition products: None known.

11. Toxicological Information

Acute Toxicity: Toxicity data is not available for this mixture. Data below are estimates based on summation methods.

Test	Results	Classification (A.0.4.1(c))	Basis (A.1.3.6.1)
Oral	> 1075mg/kg	Category 4	Ingredient literature (Additive formula)
Dermal	> 2000mg/kg	Not applicable	Ingredient literature (Additive formula)
Inhalation	> 20 mg/L	Not applicable	Ingredient literature (Additive formula)
Eye Damage/Irritation	Corrosion	Category 1	Ingredient literature
Skin Damage/Irritation	Irritation	Category 2	Ingredient literature

Summary: Skin and eye contact are most likely routes of exposure. Exposure causes skin irritation and serious eye damage.

11. Toxicological Information (cont.)**Subchronic/Chronic Toxicity:**

Test	Results	Classification	Basis
Skin Sensitization	Not a sensitizer	Not applicable	Ingredient literature.

Summary: Repeated or prolonged contact causes skin irritation and serious eye damage.

Carcinogens - Silica CAS# 14808-60-7 is listed by both IARC and NTP as a human carcinogen when present in the form of respirable quartz. Creme Cleanser, as delivered, does not contain respirable quartz.

Other data - No other toxicological information is available for this mixture.

12. Ecological Information

This material has not been tested for acute environmental effects.

Persistence and degradability: Material is not persistent. All organic components > 1% are readily biodegradable.

Bio-accumulative potential: No evidence to suggest bio-accumulation will occur.

Mobility: Accidental spillage may lead to penetration of soil and groundwater.

13. Disposal Considerations

Do not contaminate water, food or feed by disposal. If these materials cannot be disposed of by use according to label directions, contact your State Environmental Control Agency, or the hazardous waste representative at the nearest EPA Regional Office for guidance. Rinse container promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill. If container is one gallon or less, wrap empty container in plastic bag and discard in trash.

14. Transport Information

Proper Shipping Name: Not regulated **RQ** - Not Applicable
Shipping emergency phone: 800-424-9300
Transport hazard class: Not Applicable **Hazard Label:** Not Applicable
Packing Group: Not Applicable **Emergency Guide No.:** Not Applicable **Marine Pollutant:** No

15. Regulatory Information

Inventory status: All components are listed on TSCA(US), EINECS/ELINCS(EU), DSL(Canada), AICS(Australia).

OSHA Hazard Communication Standard: This product meets the §1910.1200 definition of a "Hazardous Chemical".

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes	Delayed (Chronic) Health Hazard	No
Fire Hazard	No	Reactive Hazard	No
Sudden Release of Pressure Hazard	No		

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Section 313

*Chemicals marked with an asterisk in "**3. Composition/Information on Ingredients**" are subject to reporting requirements for Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40CFR Part 372.

Pennsylvania/New Jersey/Massachusetts Right to Know

See "**3. Composition/Information on Ingredients**" for hazardous and top five ingredients over 1% (w/w).

California Proposition 65: This product contains a listed substance known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute: Silica CAS# 14808-60-7. In its current form however, no respirable quartz is present.

16. Other information

Date issued: 12/01/2014

F430-001 Revision: N/A

Disclaimer: No representation or warranty, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, is made with respect to information concerning the product referred to in this document. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, it is impossible to foresee every health effect or exposure risk incurred by the use of this product. All chemicals present some degree of hazard and should be used with caution. The information and recommendations contained herein are presented in good faith. The user should review this information in conjunction with their knowledge of the application intended to determine the suitability of this product for such purpose. In no event will the supplier be responsible for any damages of any nature whatsoever, resulting from the use, reliance upon, or the misuse of this information. Furthermore, it is the direct responsibility of the user to comply with all applicable regulations governing the use and disposal of this material. **Prepared by:** R&D

1. Identification

Product identifier DEFOAMER II

Other means of identification

SDS number 535N-78A

Product code HIL00183

Recommended use Defoamer

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.
St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (816) 233-1321 (Ext. 8285)

Fax (816) 383-8485

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300

(Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
1,2-Benzisothiazolin-3-one		2634-33-5	< 0.1
Other components below reportable levels			90 - 100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Chemical safety goggles when working with concentrate.
Skin protection	
Hand protection	Use protective gloves when dealing with the concentrate.

Other	None normally required. If unable to avoid prolonged or repeated contact with skin, wear impervious clothing.
Respiratory protection	Not normally required with adequate ventilation.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	White, opaque, viscous liquid
Physical state	Liquid.
Form	Liquid.
Color	Not available.
Odor	Non-objectionable
Odor threshold	Not available
pH	6 - 9 Concentrate
Melting point/freezing point	Not applicable / Not available
Initial boiling point and boiling range	206 °F (96.67 °C)
Flash point	> 200.0 °F (> 93.3 °C) Tag Closed Cup
Evaporation rate	< 1 Ethyl ether = 1
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17.53 mm Hg
Vapor density	0.622 Air =1
Relative density	0.999 at 77°F
Solubility(ies)	
Solubility (water)	100 % Complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	8.32 lb/gal
Percent volatile	> 98 %
VOC (Weight %)	Not available

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
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Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not available.

Product	Species	Test Results
DEFOAMER II		
Acute		
<i>Dermal</i>		
LD50	Rabbit	11439.6123 ml/kg estimated
<i>Oral</i>		
LD50	Guinea pig	11964.6494 g/kg estimated
	Rat	10061.1826 ml/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Prolonged inhalation may be harmful.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
DEFOAMER II		
Aquatic		
Fish	LC50	15986.6523 mg/l, 96 hours estimated
Components	Species	Test Results
1,2-Benzisothiazolin-3-one (CAS 2634-33-5)		
Aquatic		
Fish	LC50	8 - 13 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not contaminate ponds, waterways or ditches with chemical or used container. Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Waste from normal product use may be sewered to a public owned treatment works (POTW) in compliance with applicable Federal, State, and local pretreatment requirements.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning.

14. Transport information

DOT

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List or Exempt.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 03-05-2015

Version # 01

HMIS® ratings Health: 0
Flammability: 0
Physical hazard: 0

Disclaimer No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

1. Identification

Product identifier DEVASTATOR

Other means of identification

SDS number 540N-22A

Product code HIL00147

Recommended use Stripper

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.
St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (816) 233-1321 (Ext. 8285)

Fax (816) 383-8485

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300

(Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, dermal	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Harmful if swallowed. Harmful in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage. Harmful if inhaled. Harmful to aquatic life.

Precautionary statement

Prevention Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Take off contaminated clothing and wash before reuse.

Storage Store locked up.

Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Ethylene glycol monobutyl ether		111-76-2	20 - < 30
Benzyl Alcohol		100-51-6	5 - < 10
Ethanol, 2-amino-		141-43-5	5 - < 10
Other components below reportable levels			60 - < 70

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage**Precautions for safe handling**

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Ethanol, 2-amino- (CAS 141-43-5)	PEL	6 mg/m3
		3 ppm
Ethylene glycol monobutyl ether (CAS 111-76-2)	PEL	240 mg/m3
		50 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethanol, 2-amino- (CAS 141-43-5)	STEL	6 ppm
	TWA	3 ppm
Ethylene glycol monobutyl ether (CAS 111-76-2)	TWA	20 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethanol, 2-amino- (CAS 141-43-5)	STEL	15 mg/m3
		6 ppm
	TWA	8 mg/m3
		3 ppm
Ethylene glycol monobutyl ether (CAS 111-76-2)	TWA	24 mg/m3
		5 ppm

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Benzyl Alcohol (CAS 100-51-6)	TWA	44.2 mg/m3
		10 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Ethylene glycol monobutyl ether (CAS 111-76-2)	200 mg/g	Butoxyacetic acid (BAA), with hydrolysis	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Ethylene glycol monobutyl ether (CAS 111-76-2) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Ethylene glycol monobutyl ether (CAS 111-76-2) Skin designation applies.

US - Tennessee OELs: Skin designation

Ethylene glycol monobutyl ether (CAS 111-76-2) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Ethylene glycol monobutyl ether (CAS 111-76-2) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Ethylene glycol monobutyl ether (CAS 111-76-2) Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical goggles are recommended.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection Not normally required with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards None known.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear, colorless liquid
Physical state	Liquid.
Form	Liquid.
Color	Not available.
Odor	Mild solvent odor
Odor threshold	Not available.
pH	11 - 12
Melting point/freezing point	Not applicable / Not available
Initial boiling point and boiling range	210 °F (98.89 °C)
Flash point	> 200.0 °F (> 93.3 °C) Tag Closed Cup
Evaporation rate	< 1 Slower than 1 Ethyl ether = 1
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	16 mm Hg
Vapor density	1.6 Air=1

Relative density	0.998 at 77°F
Solubility(ies)	
Solubility (water)	Appreciable
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	8.31 lb/gal
Percent volatile	97 - 98 %
VOC (Weight %)	34.2 % US EPA 27 % CARB

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Causes severe skin burns. Harmful in contact with skin. 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans. Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Harmful if inhaled. Harmful in contact with skin. Harmful if swallowed.

Product	Species	Test Results
DEVASTATOR		
Acute		
<i>Dermal</i>		
LD50	Rabbit	70000 ml/kg estimated 1651.8423 mg/kg estimated
<i>Inhalation</i>		
LC100	Rat	2923.9766 mg/l, 8 Hours estimated
LC50	Mouse	3465.3464 ppm, 7 Hours estimated
	Rat	14619.8828 mg/l, 8 Hours estimated 2227.7227 ppm, 4 Hours estimated

Product	Species	Test Results
<i>Oral</i>		
LD50	Guinea pig	5.9402 g/kg estimated
	Mouse	5.9289 g/kg estimated
	Rabbit	1.5842 g/kg estimated
	Rat	2400.5439 mg/kg estimated

Components	Species	Test Results
Benzyl Alcohol (CAS 100-51-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2000 mg/kg
<i>Inhalation</i>		
LC100	Rat	200 - 300 mg/l, 8 Hours
LC50	Rat	1000 mg/l, 8 Hours
<i>Oral</i>		
LD50	Mouse	1580 mg/kg
	Rabbit	1940 mg/kg
	Rat	1230 - 3100 mg/kg

Ethylene glycol monobutyl ether (CAS 111-76-2)

Acute

Dermal

LD50 Rabbit 400 mg/kg

Inhalation

LC50 Mouse 700 ppm, 7 Hours
Rat 450 ppm, 4 Hours

Oral

LD50 Guinea pig 1.2 g/kg
Mouse 1.2 g/kg
Rabbit 0.32 g/kg
Rat 560 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Ethylene glycol monobutyl ether (CAS 111-76-2) 3 Not classifiable as to carcinogenicity to humans.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects

May be harmful if absorbed through skin. Prolonged inhalation may be harmful.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.

12. Ecological information**Ecotoxicity**

Harmful to aquatic life.

Product		Species	Test Results
DEVASTATOR			
Aquatic			
Fish	LC50	Fish	1302.7347 mg/l, 96 hours estimated
Components		Species	Test Results
Benzyl Alcohol (CAS 100-51-6)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	10 mg/l, 96 hours
Ethylene glycol monobutyl ether (CAS 111-76-2)			
Aquatic			
Fish	LC50	Inland silverside (Menidia beryllina)	1250 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential**Partition coefficient n-octanol / water (log Kow)**

Benzyl Alcohol	1.1
Ethylene glycol monobutyl ether	0.83

Mobility in soil

No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations**Disposal instructions**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not contaminate ponds, waterways or ditches with chemical or used container. Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Waste from normal product use may be sewerred to a public owned treatment works (POTW) in compliance with applicable Federal, State, and local pretreatment requirements.

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning.

14. Transport information**DOT**

Not regulated as dangerous goods.

15. Regulatory information**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes
	Delayed Hazard - No
	Fire Hazard - No
	Pressure Hazard - No
	Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	No
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SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA)	Not regulated.
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US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

Benzyl Alcohol (CAS 100-51-6)
Ethanol, 2-amino- (CAS 141-43-5)
Ethylene glycol monobutyl ether (CAS 111-76-2)

US. New Jersey Worker and Community Right-to-Know Act

Ethanol, 2-amino- (CAS 141-43-5)
Ethylene glycol monobutyl ether (CAS 111-76-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Benzyl Alcohol (CAS 100-51-6)
Ethanol, 2-amino- (CAS 141-43-5)
Ethylene glycol monobutyl ether (CAS 111-76-2)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	04-01-2015
Version #	01
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0

Disclaimer

No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

1. Identification

Product identifier	LIQUID ENZYME II
Other means of identification	
SDS number	559N-46A
Product code	HIL00470
Recommended use	Multipurpose Drain Maintenance
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Manufacturer	
Company name	HILLYARD INDUSTRIES
Address	302 North Fourth St. St. Joseph, MO 64501
Contact person	Regulatory Affairs
Telephone number	(816) 233-1321 (Ext. 8285)
Fax	(816) 383-8485
E-mail	regulatoryaffairs@hillyard.com
Emergency telephone #	(800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	Not classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Move container from fire area if it can be done without risk.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>Extinguish all flames in the vicinity. This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills in original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	If contact is likely, safety glasses with side shields are recommended.
Skin protection	
Hand protection	Not normally needed.
Other	Not normally needed.
Respiratory protection	Not normally needed.

Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Opaque, white liquid
Physical state	Liquid.
Form	Liquid.
Color	White
Odor	Floral odor
Odor threshold	Not available
pH	7 - 8
Melting point/freezing point	Not available
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	> 200.0 °F (> 93.3 °C) Tag Closed Cup
Evaporation rate	< 1 (ethyl ether = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17.5 mm Hg
Vapor density	0.6 AIR=1
Relative density	0.99 at 77°F
Solubility(ies)	
Solubility (water)	100 complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	8.32 lb/gal
Percent volatile	99 - 100 %
VOC (Weight %)	0 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	Product concentrate is not an irritant; prolonged exposure may produce slight irritation in sensitive individuals
Eye contact	Direct contact with eyes may cause temporary irritation.

Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.
Information on toxicological effects	
Acute toxicity	Not available.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
	Not listed.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Further information	This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning.

14. Transport information

DOT	Not regulated as dangerous goods.
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15. Regulatory information

US federal regulations	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	
	Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)	
	Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - No
	Delayed Hazard - No
	Fire Hazard - No
	Pressure Hazard - No
	Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	No
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SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA)	Not regulated.
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US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	01-22-2015
Version #	01
HMIS® ratings	Health: 0 Flammability: 0 Physical hazard: 0

Disclaimer	No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.
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MATERIAL SAFETY DATA SHEET

NFPA RATING: Health = 0 Flammability = 0 Reactivity = 0
HMIS RATING: Health = / 0 Flammability = 0 Reactivity = 0

SECTION I -- IDENTITY AND MANUFACTURER'S INFORMATION (481N-48A)**Manufacturer's Name:** HILLYARD INDUSTRIES**Product Name:** LIQUID TRAP SHOOTER**Address:** 302 North Fourth Street**Date Prepared:** March 12, 1997

St. Joseph, MO 64501

Prepared by: Regulatory Affairs Department

Emergency Telephone No.: (800)-424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)

Other information calls: (816) 233-1321 (Ext. 8285)<http://www.hillyard.com>**SECTION II -- INGREDIENTS/IDENTITY INFORMATION****Components**

(Specific Chemical Identity: Common Name(s))	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Water	7732-18-5	none	none	N/A	---
Mixture of Bacterial Spores	N/A	not established	not established	N/A	---

V.O.C. = 633 gm./l.; **V.O.S.** = 0.08 lbs./gal.

SECTION III -- PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: 208 °F	Specific Gravity (H₂O = 1): 25°C = 1.00 & 39°C = 1.00
Vapor Pressure (mm Hg.): 17.5	Percent Volatile by Volume (%): 99.3%
Vapor Density (AIR = 1): 0.6	Evaporation Rate (ethyl ether = 1): slower than 1
Solubility in Water: Complete	Appearance and Odor: Hazy, green liquid, spring fresh odor
pH (concentrate) = 6.3	

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

Flash point: None to Boiling (Tag Closed Cup) **Flammable Limits:** LEL = N/A UEL = N/A
Extinguishing Media: Not applicable.
Special Fire Fighting Procedures: None known to manufacturer
Unusual Fire and Explosion Hazards: None known to manufacturer

SECTION V -- PHYSICAL HAZARDS

Stability: Stable **Conditions to Avoid:** Excessive hot or cold temperatures may kill microorganisms.
Incompatibility (Materials to Avoid): Strong acids, alkalis or disinfectants may kill these microorganisms
Hazardous Decomposition Products or Byproducts: None known to manufacturer
Hazardous Polymerization: Will not occur **Conditions to Avoid:** None known to Hillyard

SECTION VI -- HEALTH HAZARD DATA

Routes of entry: Inhalation? no Skin? no Ingestion? no

HEALTH HAZARDS (1. Acute and 2. Chronic)

1. According to Primary Skin Irritation Test (FHSA), product concentrate is not an irritant; prolonged exposure may produce slight irritation in sensitive individuals; Eye Irritation Test (FHSA) = not irritant.
2. No data is available at this time.

Chemical listed as Carcinogen or Potential Carcinogen:

National Toxicology Program = No **I.A.R.C. Monographs =** No **OSHA =** No

This product has no carcinogens listed by IARC, NTP, NIOSH, or ACGIH as of this date, greater or equal to 0.1%.

SECTION VI -- HEALTH HAZARD DATA cont.

Signs and Symptoms of Exposure: Prolonged eye or skin contact with concentrate can cause mild irritation. Ingestion may cause nausea, vomiting and diarrhea.

Medical Conditions Generally Aggravated by Exposure: Bacterial infection may occur through open wounds or broken skin.

Emergency and First Aid Procedures: In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention. In case of skin contact, wash with soap and water; if irritation persists get medical attention. If ingested, give person several glasses of water and call a physician, hospital emergency room or poison control center for how to induce vomiting. Never give anything by mouth to an unconscious person.

SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: Pick up on absorbent material or flush away with water.

Waste Disposal Method: This product may be disposed of in sanitary sewer or septic tank. Container disposal: Triple rinse or equivalent then offer clean, dry container for recycling or reconditioning. Waste from normal use may be sewer to a public-owned treatment works in compliance with applicable federal, state and local requirements.

Precautions To Be Taken In Handling And Storing: Store in a cool dry place. Keep container tightly closed when not in use. To maintain biological properties, do not freeze and do not store above 100 °F.

Other Precautions: Keep out of reach of children. This product contains no reportable quantities of toxic chemicals subject to reporting requirements of Section 313 of SARA Title III Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR Part 372.

SECTION VIII -- CONTROL MEASURES:

Respiratory Protection (Specify Type): Not required for normal use

Ventilation:

Local Exhaust = Suggest **Mechanical (General) =** N/A **Special =** N/A **Other =** N/A

Protective Gloves: Rubber gloves **Eye Protection:** Splash goggles suggested

Other Protective Clothing or Equipment: Cover exposed skin.

Work / Hygienic Practices: Wash hands thoroughly after use.

SECTION IX - TRANSPORTATION INFORMATION:

Applicable regulations: 49 CFR = no; IMCO = no; IATA = no

Proper shipping name: Cleaning Compound

UN No.: not applicable Limited Qty.: not applicable Hazard Class: not applicable

Labels required: not required DOT Exception: not applicable

EPA Hazardous waste number / code: not listed

Hazardous waste characteristics: not listed

Ignitability = not applicable; Corrosivity = not applicable; Reactivity = not applicable

DISCLAIMER OF WARRANTIES

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY NATURE ARE MADE WITH RESPECT TO THE PRODUCT(S) OR INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET.

The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate.

THE BUYER OR USER ASSUMES ALL RISKS ASSOCIATED WITH THE USE, MISUSE OR DISPOSAL OF THIS PRODUCT. THE BUYER OR USER IS RESPONSIBLE TO COMPLY WITH ALL FEDERAL, STATE OR LOCAL REGULATIONS CONCERNING THE USE, MISUSE OR DISPOSAL OF THESE PRODUCTS.

1. Identification

Product identifier NUTRA-RINSE

Other means of identification

SDS number 538N-76A

Product code HIL00219

Recommended use Concentrated Neutral Cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.
St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (816) 233-1321 (Ext. 8285)

Fax (816) 383-8485

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300
(Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Causes skin irritation. Causes serious eye irritation.

Precautionary statement

Prevention Wash thoroughly after handling. Wear protective gloves. Wear eye/face protection.

Response If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures

Hazardous components		
Chemical name	CAS number	%
Ethylenediaminetetraacetic Acid	60-00-4	5 - < 10
Alcohols, C9-11, ethoxylated	68439-46-3	1 - < 3

Hazardous components		
Chemical name	CAS number	%
Isopropyl Alcohol	67-63-0	1 - < 3
SODIUM HYDROXIDE	1310-73-2	1 - < 3
Other components below reportable levels		80 - < 90

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Avoid contact with clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Isopropyl Alcohol (CAS 67-63-0)	PEL	980 mg/m3
		400 ppm
SODIUM HYDROXIDE (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Isopropyl Alcohol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
SODIUM HYDROXIDE (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Isopropyl Alcohol (CAS 67-63-0)	STEL	1225 mg/m3
	TWA	500 ppm 980 mg/m3 400 ppm
SODIUM HYDROXIDE (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Isopropyl Alcohol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Where splashing of concentrate is a concern, use protective glasses with side shield.

Skin protection

Hand protection

For prolonged or repeated skin contact use suitable protective gloves.

Other

No special protective equipment required.

Respiratory protection

No personal respiratory protective equipment normally required.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Clear, blue liquid

Physical state

Liquid.

Form

Liquid.

Color

Blue

Odor

non-objectionable odor

Odor threshold

Not available

pH

6 - 7

Melting point/freezing point

Not available

Initial boiling point and boiling range

209 °F (98.33 °C)

Flash point

> 200.0 °F (> 93.3 °C)

Evaporation rate	< 1 Ethyl ether = 1
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17.53 mm Hg
Vapor density	0.62 AIR=1
Relative density	1.051 at 77°F
Solubility(ies)	
Solubility (water)	100 % Complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	8.75 lb/gal
Percent volatile	87.5 - 89 %
VOC (Weight %)	1 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
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Information on toxicological effects

Acute toxicity

Product	Species	Test Results
NUTRA-RINSE (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	9756.0977 ml/kg estimated
<i>Oral</i>		
LD50	Guinea pig	2728.6821 g/kg estimated
	Mouse	404.3368 mg/kg estimated
	Rabbit	503 g/kg estimated
	Rat	7219.5122 ml/kg estimated
		403.925 g/kg estimated
<i>Other</i>		
LD50	Mouse	1446.1852 mg/kg estimated

Product	Species	Test Results
	Rat	5080.4063 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
Not listed.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		
Not regulated.		
CERCLA Hazardous Substance List (40 CFR 302.4)		
Ethylenediaminetetraacetic Acid (CAS 60-00-4)		Listed.

SODIUM HYDROXIDE (CAS 1310-73-2)

Listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Ethylenediaminetetraacetic Acid (CAS 60-00-4)
Isopropyl Alcohol (CAS 67-63-0)
SODIUM HYDROXIDE (CAS 1310-73-2)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Ethylenediaminetetraacetic Acid (CAS 60-00-4)
Isopropyl Alcohol (CAS 67-63-0)
SODIUM HYDROXIDE (CAS 1310-73-2)

US. Rhode Island RTK

Ethylenediaminetetraacetic Acid (CAS 60-00-4)
Isopropyl Alcohol (CAS 67-63-0)
SODIUM HYDROXIDE (CAS 1310-73-2)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 09-26-2014
Version # 01
HMIS® ratings Health: 2
Flammability: 0
Physical hazard: 0

Disclaimer No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

1. Identification

Product identifier	RESTORER
Other means of identification	
SDS number	567N98A
Product code	HIL00539
Recommended use	Floor Finish
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Manufacturer	
Company name	HILLYARD INDUSTRIES
Address	302 North Fourth St. St. Joseph, MO 64501
Contact person	Regulatory Affairs
Telephone number	(816) 233-1321 (Ext. 8285)
Fax	(816) 383-8485
E-mail	regulatoryaffairs@hillyard.com
Emergency telephone #	(800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals)

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 4
Health hazards	Serious eye damage/eye irritation	Category 2A
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 4
OSHA defined hazards	Not classified.	

Label elements



Signal word	Warning
Hazard statement	Combustible liquid. Causes serious eye irritation. Harmful to aquatic life. May cause long lasting harmful effects to aquatic life.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/eye protection/face protection.
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.
Storage	Store in a well-ventilated place. Keep cool.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
2-Methoxymethylethoxypropan ol [DPM]		34590-94-8	1 - < 3
Isopropyl Alcohol		67-63-0	1 - < 3
Alcohols (C12-15 In, Saturated) Ethoxylate		68131-39-5	< 1
Other components below reportable levels			90 - 100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth thoroughly. Drink plenty of water. Get medical attention if any discomfort continues.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Combustible liquid.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Material can be slippery when wet. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Follow precautions for safe handling described in this safety data sheet. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage**Precautions for safe handling**

Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke. Avoid contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
2-Methoxymethylethoxyprop anol [DPM] (CAS 34590-94-8)	PEL	600 mg/m3
Isopropyl Alcohol (CAS 67-63-0)	PEL	100 ppm 980 mg/m3 400 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
2-Methoxymethylethoxyprop anol [DPM] (CAS 34590-94-8)	STEL	150 ppm
Isopropyl Alcohol (CAS 67-63-0)	TWA STEL	100 ppm 400 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
2-Methoxymethylethoxyprop anol [DPM] (CAS 34590-94-8)	STEL	900 mg/m3
	TWA	150 ppm 600 mg/m3 100 ppm
Isopropyl Alcohol (CAS 67-63-0)	STEL	1225 mg/m3
	TWA	500 ppm 980 mg/m3 400 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Isopropyl Alcohol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

2-Methoxymethylethoxypropan ol [DPM]
(CAS 34590-94-8) Can be absorbed through the skin.

US - Tennessee OELs: Skin designation

2-Methoxymethylethoxypropan ol [DPM]
(CAS 34590-94-8) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

2-Methoxymethylethoxypropan ol [DPM]
(CAS 34590-94-8) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

2-Methoxymethylethoxypropan ol [DPM]
(CAS 34590-94-8) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

2-Methoxymethylethoxypropan ol [DPM]
(CAS 34590-94-8) Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection

Chemical splash goggles where there is a potential for eye contact.

Skin protection

Hand protection

For prolonged or repeated skin contact use suitable protective gloves.

Other

Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Translucent pink

Physical state

Liquid.

Form

Liquid.

Color

Pink.

Odor

Fruit punch odor

Odor threshold

Not available

pH

8 - 9

Melting point/freezing point

Not available

Initial boiling point and boiling range

> 204 °F (> 95.56 °C) Corrected

Flash point

150.0 °F (65.6 °C) Tag Closed Cup

Evaporation rate

< 1 (ethyl ether = 1)

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit - upper (%)	Not available.
Vapor pressure	17.5 mm Hg
Vapor density	0.8 AIR=1
Relative density	1 at 77°F
Solubility(ies)	
Solubility (water)	100 % Complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	8.33 lb/gal
Percent volatile	97.25 - 98.5 %
VOC (Weight %)	5 % (concentrate)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	May be irritating to the skin.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
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Information on toxicological effects

Acute toxicity

Product	Species	Test Results
RESTORER		
Acute		
<i>Dermal</i>		
LD50	Rabbit	16342.5732 ml/kg estimated 10638.2979 g/kg estimated
<i>Oral</i>		
LD50	Guinea pig	12154.6963 g/kg estimated
	Mouse	66666.6641 g/kg estimated
	Rabbit	250.736 g/kg estimated
	Rat	4358.1416 ml/kg estimated 225.1776 g/kg estimated

Components	Species	Test Results
2-Methoxymethylethoxypropan ol [DPM] (CAS 34590-94-8)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	9.5 g/kg
<i>Oral</i>		
LD50	Rat	5.4 ml/kg
		5.35 g/kg
Isopropyl Alcohol (CAS 67-63-0)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	12800 mg/kg
<i>Oral</i>		
LD50	Mouse	3600 mg/kg
	Rabbit	5.03 g/kg
	Rat	4.7 g/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Prolonged inhalation may be harmful.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life. May cause long lasting harmful effects to aquatic life.

Product	Species	Test Results
RESTORER		
Aquatic		
Crustacea	EC50	Daphnia
		8633.7568 mg/l, 48 hours estimated
Fish	LC50	Fish
		1658.8414 mg/l, 96 hours estimated
Components	Species	Test Results
Alcohols (C12-15 In, Saturated) Ethoxylate (CAS 68131-39-5)		
Aquatic		
Crustacea	EC50	Water flea (Ceriodaphnia dubia)
		0.37 - 0.43 mg/l, 48 hours
Fish	LC50	Channel catfish (Ictalurus punctatus)
		1.04 - 1.39 mg/l, 96 hours

Components	Species	Test Results
Isopropyl Alcohol (CAS 67-63-0)		
Aquatic		
Fish	LC50	Western mosquitofish (<i>Gambusia affinis</i>) > 1400 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Isopropyl Alcohol 0.05

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Safe Drinking Water Act (SDWA)** Not regulated.**US state regulations****US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

2-Methoxymethylethoxypropan ol [DPM]

(CAS 34590-94-8)

Isopropyl Alcohol (CAS 67-63-0)

US. New Jersey Worker and Community Right-to-Know Act

2-Methoxymethylethoxypropan ol [DPM]

(CAS 34590-94-8)

Isopropyl Alcohol (CAS 67-63-0)

US. Pennsylvania Worker and Community Right-to-Know Law

2-Methoxymethylethoxypropan ol [DPM]

(CAS 34590-94-8)

Isopropyl Alcohol (CAS 67-63-0)

US. Rhode Island RTK

Isopropyl Alcohol (CAS 67-63-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	02-10-2015
Revision date	04-05-2016
Version #	02
HMIS® ratings	Health: 2 Flammability: 2 Physical hazard: 0

Disclaimer No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

Revision Information Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: Disclosure Overrides
Physical & Chemical Properties: Multiple Properties

1. Identification

Product identifier SEAL 341

Other means of identification

SDS number 567N-100B

Product code HIL00341

Recommended use Floor Finish

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.
St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (816) 233-1321 (Ext. 8285)

Fax (816) 383-8485

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300
(Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Hazardous to the aquatic environment, acute Category 3 hazard

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement Harmful to aquatic life.

Precautionary statement

Prevention Avoid release to the environment.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
2-(2-ethoxyethoxy)ethanol		111-90-0	3 - < 5
Tributoxyethyl Phosphate		78-51-3	1 - < 3
Other components below reportable levels			90 - 100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue rinsing.
Ingestion	Drink water as a precaution. Get medical attention if any discomfort continues.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Follow precautions for safe handling described in this safety data sheet. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
2-(2-ethoxyethoxy)ethanol (CAS 111-90-0)	TWA	140 mg/m ³
		25 ppm

Biological limit values	No biological exposure limits noted for the ingredient(s).
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Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Where splashing of concentrate is a concern, use protective glasses with side shield.
Skin protection	
Hand protection	For prolonged or repeated skin contact use suitable protective gloves.
Other	Not normally needed.
Respiratory protection	No personal respiratory protective equipment normally required.
Thermal hazards	None known.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Milky emulsion
Physical state	Liquid.
Form	Liquid.
Color	Milky white
Odor	non-objectionable odor
Odor threshold	Not available
pH	8.5 - 9.5
Melting point/freezing point	Not applicable / Not available
Initial boiling point and boiling range	212 °F (100 °C) estimated
Flash point	> 212.0 °F (> 100.0 °C) Tag Closed Cup
Evaporation rate	< 1 Ethyl ether = 1
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	21.1 mm Hg
Vapor density	1.1 AIR=1
Relative density	1.03 at 77°F
Solubility(ies)	
Solubility (water)	Appreciable
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	8.58 lb/gal
Percent volatile	77.5 - 78.5 %
VOC (Weight %)	CARB Compliant

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	May be irritating to the skin.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics
Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
SEAL 341		
Acute		
<i>Dermal</i>		
LD50	Rabbit	25000.1406 mg/kg estimated
<i>Inhalation</i>		
LC50	Mouse	5955.5742 mg/l, 10 Minutes estimated 2816.4292 mg/l, 1 Hours estimated 2774.5181 mg/l, 2 Hours estimated
	Rabbit	3167.116 mg/l, 1 Hours estimated
	Rat	6370.4946 mg/l, 2 Hours estimated 4274.937 mg/l, 1 Hours estimated
<i>Oral</i>		
LD50	Guinea pig	46728.9727 mg/kg estimated
	Mouse	157.7938 g/kg estimated
	Rabbit	86810.5547 mg/kg estimated
	Rat	27754.5117 mg/kg estimated

Components	Species	Test Results
2-(2-ethoxyethoxy)ethanol (CAS 111-90-0)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	8476 mg/kg
	Rat	6000 mg/kg
<i>Oral</i>		
LD50	Mouse	6.58 g/kg
	Rat	1920 mg/kg
Tributoxyethyl Phosphate (CAS 78-51-3)		
Acute		
<i>Oral</i>		
LD50	Guinea pig	3000 mg/kg
	Rat	3000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life.

Product		Species	Test Results
SEAL 341			
Aquatic			
Crustacea	EC50	Daphnia	135.815 mg/l, 48 hours estimated
Fish	LC50	Fish	438.6248 mg/l, 96 hours estimated
Components		Species	Test Results
2-(2-ethoxyethoxy)ethanol (CAS 111-90-0)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 10000 mg/l, 96 hours
Tributoxyethyl Phosphate (CAS 78-51-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	10.4 - 12 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

2-(2-ethoxyethoxy)ethanol	-0.54
Tributoxyethyl Phosphate	3.75

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - No
	Delayed Hazard - No
	Fire Hazard - No
	Pressure Hazard - No
	Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	No
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SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA)	Not regulated.
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US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	11-18-2014
Version #	01
HMIS® ratings	Health: 0 Flammability: 0 Physical hazard: 0

Disclaimer

No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

Safety Data Sheet

Hillyard Sorb-It Granular Absorbent for Surface Liquids

SECTION 1. IDENTIFICATION

Product Identifier	Hillyard Sorb-It Granular Absorbent for Surface Liquids
Other Means of Identification	HIL0076171
Other Identification	Sanitary Absorbent for Surface Liquids
Product Family	Dry Deodorants
Recommended Use	Dry Deodorants.
Restrictions on Use	None known.
Supplier	Hillyard, PO Box 909, St. Joseph, MO, 64501, Hillyard Clean Assist, 816 233 1321, http://www.hillyard.com
Emergency Phone No.	Hillyard (Chemtrec), 800 424 9300, 24hr
SDS No.	0333

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion/irritation - Category 2; Serious eye damage/eye irritation - Category 2B

GHS Label Elements



Signal Word:
Warning

Hazard Statement(s):

H315 Causes skin irritation.
H320 Causes eye irritation.

Precautionary Statement(s):

Prevention:
P264 Wash thoroughly after handling.
P280 Wear protective gloves.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 Specific treatment (see on this label).
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.

Product Identifier:	Hillyard Sorb-It Granular Absorbent for Surface Liquids
SDS No.:	0333
Date of Preparation:	February 24, 2015

P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:
P401 Store in accordance with local, regional, national and international regulations.

Disposal:
P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Sodium poly acrylate	9003-04-7	98.9	
Other components below reportable Levels	No CAS	0.313	
Terpenes and Terpenoids, sweet orange-oil	68647-72-3	0.193	
Precipitated silica	112926-00-8	0.462	
Hydrocarbons, terpene processing by-products	68956-56-9	0.132	

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Call a Poison Centre or doctor if you feel unwell or are concerned.

Skin Contact

Rinse with lukewarm, gently flowing water for 5 minutes.

Eye Contact

Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open.
If eye irritation persists, get medical advice/attention.

Ingestion

Rinse mouth with water. Call a Poison Centre or doctor if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

If on skin:

May cause mild irritation.

If in eyes:

May cause mild irritation.

If swallowed:

Can irritate the mouth, throat and stomach.

Immediate Medical Attention and Special Treatment

Special Instructions

Not applicable.

Medical Conditions Aggravated by Exposure

None known.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

Unsuitable Extinguishing Media

Product Identifier: Hillyard Sorb-It Granular Absorbent for Surface Liquids

SDS No.: 0333

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Date of Preparation: February 24, 2015

None known.

Specific Hazards Arising from the Chemical

Can ignite if strongly heated.

This product presents no unusual hazards in a fire situation.

Not known to generate any hazardous decomposition products in a fire.

Special Protective Equipment and Precautions for Fire-fighters

No special precautions are necessary.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

No special precautions are necessary.

Environmental Precautions

It is good practice to prevent releases into the environment.

Methods and Materials for Containment and Cleaning Up

No special clean-up methods are necessary.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

No special handling precautions are necessary.

Conditions for Safe Storage

No special requirements for storage area.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Precipitated silica	3 mg/m3		5 mg/m3			

Appropriate Engineering Controls

The hazard potential of this product is relatively low. General ventilation is usually adequate.

Individual Protection Measures

Eye/Face Protection

Not required if product is used as directed.

Skin Protection

Not required, if used as directed.

Respiratory Protection

Do not breathe in this product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	powder. Particle Size: Not available
Odour	Fragrant (Fragrance)
Odour Threshold	Not available
pH	Not applicable
Melting Point/Freezing Point	Not available (melting); Not applicable (freezing)
Initial Boiling Point/Range	Not applicable

Product Identifier: Hillyard Sorb-It Granular Absorbent for Surface Liquids

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Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	Not applicable
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	Not applicable
Solubility	Not applicable in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not applicable
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Solid
Molecular Formula	Not available
Molecular Weight	Not available
Bulk Density	Not available
Surface Tension	Not available
Critical Temperature	Not available
Electrical Conductivity	Not available
Vapour Pressure at 50 deg C	Not available
Saturated Vapour Concentration	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

None known.

Incompatible Materials

None known.

Hazardous Decomposition Products

None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Ingestion; eye contact; skin contact; inhalation.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
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Precipitated silica		> 10000 mg/kg (rat)	> 5000 mg/kg (rabbit)
---------------------	--	---------------------	-----------------------

LC50: No information was located.

LD50 (oral): No information was located.

LD50 (dermal): No information was located.

Skin Corrosion/Irritation

No information was located.

Serious Eye Damage/Irritation

There is limited evidence of very mild irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Not harmful.

Skin Absorption

No information was located.

Ingestion

No information was located.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

Not known to cause cancer.

Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Effects on or via Lactation

Not known to cause effects on or via lactation.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

No information was located.

No information was located for: Skin Corrosion/Irritation, Serious Eye Damage/Irritation, STOT (Specific Target Organ Toxicity) - Single Exposure, STOT (Specific Target Organ Toxicity) - Repeated Exposure, Respiratory and/or Skin Sensitization, Carcinogenicity, Development of Offspring, Sexual Function and Fertility, Germ Cell Mutagenicity, Interactive Effects

SECTION 12. ECOLOGICAL INFORMATION

Environmental information was not located.

Toxicity

No information was located.

Persistence and Degradability

No information was located.

Bioaccumulative Potential

Product Identifier: Hillyard Sorb-It Granular Absorbent for Surface Liquids

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No information was located.

Mobility in Soil

No information was located.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG Regulations. Not regulated under US DOT Regulations.

Special Precautions for User Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

WHMIS Classification

Not a WHMIS controlled product.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by the Controlled Products Regulations.

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Not listed on the DSL or NDSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.

Additional USA Regulatory Lists

Massachusetts Right To Know: 2,6-DI-TERT-BUTYL-P-CRESOL (CAS 128-37-0) 0.0033% wt/wt

New Jersey Right To Know: 2,6-DI-TERT-BUTYL-P-CRESOL (CAS 128-37-0) 0.0033% wt/wt

Pennsylvania Right To Know: 2,6-DI-TERT-BUTYL-P-CRESOL (CAS 128-37-0) 0.0033% wt/wt.

SECTION 16. OTHER INFORMATION

NFPA Rating	Health - Not	Flammability - 0	Instability - 0
SDS Prepared By	Wayne Hegstrom		
Phone No.	405 682 2541		
Date of Preparation	February 24, 2015		

Product Identifier: Hillyard Sorb-It Granular Absorbent for Surface Liquids

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MATERIAL SAFETY DATA SHEET**NFPA RATING:** Health = 1, Flammability = 0, Reactivity = 0**HMIS RATING:** Health = /,1, Flammability = 0, Reactivity = 0**SECTION I - IDENTITY AND MANUFACTURER'S INFORMATION (538N-97A)****Manufacturer's Name:** HILLYARD INDUSTRIES**Product Name:** TOP CLEAN**Address:** 302 North Fourth Street**Date Prepared:** October 1, 2007

St. Joseph, MO 64502

Prepared by: Regulatory Affairs Department**Emergency Telephone No.:** CHEMTREC (800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)**Other information calls:** (816) 233-1321 (Ext. 8285)<http://www.hillyard.com>**SECTION II - INGREDIENTS/IDENTITY INFORMATION**

Components (Specific Chemical Identity: Common Name(s))	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Water	7732-18-5	none	none	N.A.	---
Alcohol ethoxylate	68584-22-5	not est.	not est.	N.A.	---
Bouquet Fragrance	Trade Secret	not est.	not est.	N.A.	---

VOC (concentrate) = 0%; VOC (Min. Dilution) = 0%

SECTION III - PHYSICAL / CHEMICAL CHARACTERISTICS**Boiling point:** 200°F**Specific Gravity (H₂O):** 25°F = 1.00; 39°F = 1.00**Vapor Pressure (mm Hg.):** 17.5**Percent Volatile by Volume (%):** 96.6%**Vapor Density (Air = 1):** 0.6**Evaporation Rate (Ethyl ether = 1):** slower than 1**Solubility in Water:** Complete**Appearance and odor:** Clear, yellow liquid, floral odor**pH (Conc.):** 9.3**SECTION IV - FIRE AND EXPLOSION HAZARD DATA****Flash point:** None. (T.C.C.)**Flammable Limits:** LEL = N.A. UEL = N.A.**Extinguishing Media:** Water, Carbon dioxide, Dry chemical or foam.**Special Fire Fighting Procedures:** Normal fire fighting procedures may be used. Cool and cautiously approach or handle fire exposed containers.**Unusual Fire and Explosion Hazards:** No special hazards known.**SECTION V - PHYSICAL HAZARDS****Stability:** Stable **Conditions to Avoid:** N.A.**Incompatibility (Materials to Avoid):** None known to Hillyard.**Hazardous Decomposition Products or Byproducts:** When exposed to fire, produces normal products of combustion.**Hazardous Polymerization:** Will not occur **Conditions to Avoid:** None known to Hillyard.**SECTION VI - HEALTH HAZARD DATA****Routes of entry:** Inhalation? no

Skin? yes

Ingestion? no

HEALTH HAZARDS (1. Acute and 2. Chronic)

1. According to Primary Skin Irritation Test (FHSA), product concentrate is not considered to be a primary irritant. Prolonged eye contact may produce eye irritation. Not a skin sensitizer. Not acutely oral toxic at 5 gm./kg. When tested as specified this product was not considered to be a UN/DOT corrosive at 4 hours. Not acute toxic by inhalation at 216 mg/l.

2. None known to Hillyard.

Chemical listed as Carcinogen or Potential Carcinogen:

National Toxicology Program = No I.A.R.C. Monographs = No OSHA = No

HEALTH HAZARDS DATA continued

Signs and Symptoms of Exposure: Concentrate irritating to the eye. Frequent or prolonged contact with eye may cause irritation.

Medical Conditions Generally Aggravated by Exposure:

None known to manufacturer.

Emergency and First Aid Procedures:

In case of contact immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, get medical attention.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled:

Floors may become slippery with standing liquid. Rinse spill area with water after pick up with wet vac or mop.

Waste Disposal Method:

No special method. Observe all applicable Federal, State, and Local requirements regarding disposal of non-hazardous materials. Waste from normal product use may be sewer to a public owned treatment works (POTW) in compliance with applicable Federal, State, and local pretreatment requirements. Container disposal: Triple rinse (or equivalent) then offer clean, dry container for recycling or reconditioning.

Precautions To Be Taken In Handling And Storing:

Freezing of product may rupture container. Product shelf life is best retained by storage at 45° - 100°F.

Other Precautions:

Do not take internally. This product contains no reportable quantities of toxic chemicals subject to reporting requirements of Section 313 of SARA Title III Emergency Planning & Community Right to Know Act of 1986 and 40 CFR Part 372.

SECTION VIII - CONTROL MEASURES

Respiratory Protection (Specify Type): N.A.

Ventilation: Not required with normal method of use.

Local Exhaust = N.A. **Mechanical (General)** = N.A. **Special** = N.A. **Other** = N.A.

Protective Gloves: None necessary when following label directions.

Eye Protection: None normally needed when following label directions.

Other Protective Clothing or Equipment: Not needed.

Work / Hygienic Practices: Wash thoroughly after handling.

SECTION IX - TRANSPORTATION INFORMATION

Applicable regulations: 49 CFR = no; IMCO = no; IATA = no

Proper shipping name: Cleaning compound

UN No.: not applicable **Limited Qty.:** not applicable **Hazard Class:** not applicable

Labels required: not required **DOT Exception:** not applicable

EPA Hazardous waste number / code: not listed

Hazardous waste characteristics:

Ignitability = not applicable; **Corrosivity** = not applicable; **Reactivity** = not applicable.

DISCLAIMER OF WARRANTIES

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY NATURE ARE MADE WITH RESPECT TO THE PRODUCT(S) OR INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET.

The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate.

THE BUYER OR USER ASSUMES ALL RISKS ASSOCIATED WITH THE USE, MISUSE OR DISPOSAL OF THIS PRODUCT. THE BUYER OR USER IS RESPONSIBLE TO COMPLY WITH ALL FEDERAL, STATE OR LOCAL REGULATIONS CONCERNING THE USE, MISUSE OR DISPOSAL OF THESE PRODUCTS.

Safety Data Sheet -ZIZ-O Multi – Purpose Cleaner

Revision Date: 01/01/2015

SECTION 1 - IDENTIFICATION:

Product Identification:

Product Name: ZIZ-O
Recommended Use: Multi Purpose Cleaner
Restrictions on Use: None

Manufactured For:

Hillyard Industries
302 North 4th St.
St. Joseph, MO 64501
PH: 800-365-1555
www.Hillyard.com
Product No. HIL00090
Issue Date 1/01/2015

SECTION 2 - HAZARDS IDENTIFICATION:

No hazardous components or VOC's.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS:

Composed of a mixture of inert material and bio-based products (Trade Secret).

SECTION 4 - FIRST AID MEASURES:

Ingestion: Drink large quantities of water.
Inhalation: N/A
Skin Contact: N/A
Eye Contact: Flush with water for a minimum of 15 minutes. Seek medical attention if irritation persists.

SECTION 5 - FIRE-FIGHTING MEASURES:

Flash Point: Not combustible
Flammability: Not flammable
Extinguishing Media: Any suitable for adjacent fire.
Unusual Fire & Explosion Hazards: None

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Personal Precautions: None
Methods for Clean Up: Wipe with rag, flush with water and absorb.

SECTION 7 - HANDLING AND STORAGE:

Keep containers tightly sealed to avoid drying of product. Store product in a cool dry place.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION:

Respiratory Protection: None
Ventilation: None
Eye Protection: None (Good Practice)
Impervious Gloves: None (Good Practice)

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: Paste
Color: Light Pink
Odor: Odorless
PH: 8.0 +- .05
Freezing Point: N/A
Boiling Point: N/A
Flash Point: Not Combustible
Evaporation Rate: N/A
Flammable Properties: Not Flammable
Specific Gravity: N/A

SECTION 10 - STABILITY AND REACTIVITY:

Stability: Stable
Conditions to Avoid: N/A
Materials to Avoid: N/A
Hazardous Decomposition Products: N/A
Hazardous Polymerization: Does not occur

SECTION 11 - TOXICOLOGY INFORMATION:

Not available for this mixture.

SECTION 12 - ECOLOGICAL INFORMATION:

Contains no substances known to be hazardous to the environment or that are not degradable in wastewater treatment plants.

SECTION 13 - DISPOSAL CONSIDERATIONS:

Dispose per location regulations for non-hazardous materials.

SECTION 14 - TRANSPORT INFORMATION:

Shipping Name: Compound Paste Cleaner
Hazard Class: N/A
Label Requirements: N/A
Reportable Quantity: N/A

SECTION 15 - REGULATORY INFORMATION:

None known for this product.

SECTION 16 - OTHER INFORMATION:

Date Prepared: 1/01/2015

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY THE MATERIALS IF REASONABLE SAFETY PROCEDURES ARE NOT ADHERED TO AS STIPULATED IN THE DATA SHEET. ADDITIONALLY, VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY ABNORMAL USE OF THE MATERIAL, EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. FURTHERMORE, VENDEE ASSUMES THE RISK IN USE OF THE MATERIAL.

MATERIAL SAFETY DATA SHEET

4/4/2016

MANUFACTURER OR DISTRIBUTOR: **Rich Art Color Co.
202 Pegasus Avenue
P.O. Box 198
Northvale, New Jersey 07647**

INFORMATION TELEPHONE NUMBER: **201-767-0009**
EMERGENCY TELEPHONE NUMBER: **201-264-7542cel**

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: **RICH ART CLEAN COLORS WASHABLE PAINT** PRODUCT NUMBER: **CLNC**
PRODUCT SIZES: **473, 946, 3785 ML (SEE COMMENTS)** BRAND NAME: **RICH ART CLEAN COLORS WASHABLE PAINT**
PRODUCT CLASS: **TEMPERA (LIQUID)**

SECTION II - HAZARDOUS INGREDIENTS

<u>Ingredient</u>	<u>CAS #</u>	<u>PEL/TLV (MG/M#)</u>	<u>Max % Weight</u>	<u>NTP</u>	<u>IARC</u>
None					

SECTION III - PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: N/A MELTING POINT: N/A
VAPOR PRESSURE: N/A
SPECIFIC VAPOR DENSITY (AIR=1): N/A SPECIFIC GRAVITY: N/A
SOLUBILITY IN WATER: N/A REACTIVITY IN WATER: NON-REACTIVE
APPEARANCE AND ODOR:

SECTION IV - FIRE AND EXPLOSION INFORMATION

FLASH POINT (METHOD): N/A AUTOIGNITION TEMPERATURE: N/A
EXPLOSION LIMITS IN AIR (% BY VOLUME): NOT EXPLOSIVE
EXTINGUISHING MEDIA: NO SPECIAL MEDIA REQUIRED
FIRE FIGHTING PROCEDURES: NO SPECIAL FIRE FIGHTING PROCEDURES REQUIRED
UNUSUAL FIRE & EXPLOSION HAZARDS: NOT COMBUSTIBLE

SECTION V - PHYSICAL HAZARDS/REACTIVITY

HAZARDOUS POLYMERIZATION PRODUCTS: NONE
STABILITY: STABLE CONDITIONS TO AVOID: NONE
INCOMPATIBILITY (MATERIALS TO AVOID): NONE
HAZARDOUS DECOMPOSITION PRODUCTS: NONE

SECTION VI - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL: SEE SECTION II FOR COMPONENT PEL/TLVs
PRIMARY ROUTES OF ENTRY: INHALATION, INGESTION, EYE, SKIN
EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE: NONE EXPECTED
EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE: NONE EXPECTED
CARCINOGEN LISTING: NTP: **NO** IARC: **NO** OSHA: **NO**

SEE SECTION II FOR COMPONENTS AFFECTED

MEDICAL CONDITIONS USUALLY AGGRAVATED BY OVER EXPOSURE TO THIS PRODUCT: NONE

FIRST AID MEASURES: NONE REQUIRED. NO ACUTE HEALTH EFFECTS EXPECTED.

SECTION VII - SPILL OR LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN DURING STORAGE AND HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

STEPS TO BE TAKEN IN CASE A MATERIAL IS SPILLED: NO SPECIAL SPILL PROCEDURES REQUIRED.

WASTE DISPOSAL METHOD: DISPOSE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION VIII - PROTECTIVE EQUIPMENT/CONTROL MEASURES

RESPIRATORY PROTECTION AND SPECIAL VENTILATION REQUIREMENTS: NONE REQUIRED

OTHER PROTECTIVE EQUIPMENT (GLOVES, GOGGLES, ETC): NONE REQUIRED

WORK/HYGIENE PRACTICES: NONE REQUIRED

SECTION IX - ADDITIONAL INFORMATION AND WARNINGS

THIS INFORMATION SHEET IS FOR CONSUMER USE ONLY.

ADDITIONAL INFORMATION AND WARNINGS: NONE REQUIRED

SECTION X - COLOR INFORMATION

THIS MSDS APPLIES TO THE FOLLOWING COLORS WHICH ARE ASSOCIATED WITH HAZARDOUS AND/OR NON-HAZARDOUS INGREDIENTS

Product Color	Hazardous Ingredient
C14 WHITE (SNOWFLAKEY WHITE)	(none)
C24 BLACK (TUXEDO BLACK)	(none)
C31 YELLOW (BEE BOPPING YELLOW)	(none)
C42 ORANGE (DIAL UP ORANGE)	(none)
C44 PEACH (CRABBY PEACH)	(none)
C52 RED (RED ROVER RED)	(none)
C61 TURQUOISE (TERRESTRIAL TURQUOISE)	(none)
C62 BLUE (FLY BYE BLUE)	(none)

Product Color	Hazardous Ingredient
C72 GREEN (GLURP GREEN)	(none)
C81 MAGENTA (MAGGIE-SAURUS MAGENTA)	(none)
C88 PURPLE (EYE-POPPING PURPLE)	(none)
C91 BROWN (BEASTY BROWN)	(none)
CON104-01 RED	(none)
CON104-02 YELLOW	(none)
CON104-03 BLUE	(none)
CON104-04 GREEN	(none)
CON104-05 PURPLE	(none)
CON104-06 ORANGE	(none)
CON104-07 WHITE	(none)
CON104-08 BLACK	(none)
KP31 YELLOW	(none)
KP52 RED	(none)
KP62 BLUE	(none)
KP72 GREEN	(none)

Larry Cook, Ph.D., DABT

4/4/2016

SAFETY DATA SHEET

CLEAN FORCE OVEN AND GRILL CLEANER AEROSOL

Section 1. Chemical product and company identification

Product name : CLEAN FORCE OVEN AND GRILL CLEANER AEROSOL
Recommended use and restrictions : Degreaser

Use only for the purpose on the product label.

Product dilution information : Not applicable

Supplier's information : PureForce
370 Wabasha Street North
St. Paul, MN 55102
1-866-444-7450

Code : 902139-03

Date of issue : **07 Mar 2013**

EMERGENCY HEALTH INFORMATION: 1-800-328-0026
Outside United States and Canada CALL 1-651-222-5352 (in USA)

Section 2. Hazards identification

GHS Classification : **Product AS SOLD**
FLAMMABLE AEROSOLS. - Category 2
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 1
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

GHS label elements

Signal word : Danger

Symbol :



Hazard statements : Flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes severe skin burns and eye damage.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Pressurized container: Do not pierce or burn, even after use. Do not breathe dust or mist. Wash hands thoroughly after handling.

Response :

Product AT USE DILUTION

Product is sold ready to use.

Section 2. Hazards identification

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : See section 13 for waste disposal information.

Other hazards : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product AS SOLD

Hazardous ingredients	Concentration Range (%)	CAS number
SODIUM HYDROXIDE	8	1310-73-2
BUTOXYDIGLYCOL	3	112-34-5
BUTANE	1 - 5	106-97-8
PROPANE	1 - 5	74-98-6

Product AT USE DILUTION

Hazardous ingredients	Concentration Range (%)	CAS number
-----------------------	-------------------------	------------

Product is sold ready to use.

Section 4. First aid measures

Product AS SOLD

Eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Skin contact : Take off immediately all contaminated clothing. Rinse skin with water or shower. Get medical attention immediately. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately.

Ingestion : Get medical attention immediately. Rinse mouth. Do not induce vomiting.

Protection of first-aiders :

Product AT USE DILUTION

Product is sold ready to use.

Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See toxicological information (section 11)

Section 5. Fire-fighting measures

Product AS SOLD

Suitable fire extinguishing media : Use water spray, fog or foam.

Specific hazards arising from the chemical : Flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Specific fire-fighting methods : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Product AS SOLD

Personal precautions : Initiate company's spill response procedures immediately. Keep people out of area. Put on appropriate personal protective equipment (see section 8). Do not touch or walk through spilled material.

Environmental precautions : Avoid contact of spilled material and runoff with soil and surface waterways.

Methods for cleaning up : Use a water rinse for final clean-up.

Product AT USE DILUTION

Product is sold ready to use.

Section 7. Handling and storage

Product AS SOLD

Handling : Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Store and use away from heat, sparks, open flame or any other ignition source. Liquid and vapor under pressure. Do not puncture, incinerate or store the container at temperatures above 49°C (120°F) or in direct sunlight. Use only with adequate ventilation. Wash thoroughly after handling.

Storage :

Product AT USE DILUTION

Product is sold ready to use.

Section 7. Handling and storage

Keep out of reach of children. Keep container tightly closed. Keep container tightly closed and sealed until ready for use. Keep container in a cool, well-ventilated area. Avoid all possible sources of ignition (spark or flame). Do not puncture or incinerate container.

Store between the following temperatures: 5 and 45°C

Section 8. Exposure controls/personal protection

Control parameters

Ingredient name	Exposure limits
SODIUM HYDROXIDE	ACGIH TLV (United States, 3/2012). C: 2 mg/m ³ OSHA PEL (United States, 6/2010). TWA: 2 mg/m ³ 8 hours. NIOSH REL (United States, 6/2009). CEIL: 2 mg/m ³
BUTOXYDIGLYCOL	ACGIH TLV (United States, 3/2012). TWA: 10 ppm 8 hours. Form: Inhalable fraction and vapor
BUTANE	ACGIH TLV (United States, 3/2012). TWA: 1000 ppm 8 hours. NIOSH REL (United States, 6/2009). TWA: 800 ppm 10 hours. TWA: 1900 mg/m ³ 10 hours.
PROPANE	ACGIH TLV (United States, 3/2012). TWA: 1000 ppm 8 hours. OSHA PEL (United States, 6/2010). TWA: 1800 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours. NIOSH REL (United States, 6/2009). TWA: 1000 ppm 10 hours. TWA: 1800 mg/m ³ 10 hours.

Appropriate engineering controls

Product AS SOLD

: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Personal protection

Eye protection

: Use chemical splash goggles. For continued or severe exposure wear a face shield over the goggles.

Hand protection

: Use chemical-resistant, impervious gloves.

Skin protection

: Use synthetic apron, other protective equipment as necessary to prevent skin contact.

Product AT USE DILUTION

Product is sold ready to use.

Section 8. Exposure controls/personal protection

Respiratory protection	: A respirator is not needed under normal and intended conditions of product use.	
Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.	

Section 9. Physical and chemical properties

	Product AS SOLD	Product AT USE DILUTION
Physical state	: Aerosol	Product is sold ready to use.
Color	: Clear	
Odor	: Odorless	
pH	: 13 to 14 (100%)	
Flash point	: Not applicable	
Explosion limits	: Not available.	
Flammability (solid, gas)	: Not available.	
Melting point	: Not available.	
Boiling point	: >100°C (>212°F)	
Evaporation rate (butyl acetate = 1)	: Not available.	
Vapor pressure	: Not available.	
Vapor density	: Not available.	
Relative density	: 1.02 to 1.04 (Water = 1)	
Solubility	: Not available.	
Partition coefficient: n-octanol/water	: Not available.	
Auto-ignition temperature	: Not available.	
Decomposition temperature	: Not available.	
Odor threshold	: Not available.	
Viscosity	: Not available.	
<u>Aerosol product</u>		
Type of aerosol	: Spray	
Heat of combustion	: 0.00000427 kJ/g	
Ignition distance	: Not available.	
Flame height	: Not available.	
Flame duration	: Not available.	

Section 10. Stability and reactivity

Product AS SOLD	
Stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame).
Materials to avoid	: Reactive or incompatible with the following materials: organic materials, metals, acids and alkalis.

Section 10. Stability and reactivity

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Route of exposure : Skin contact, Eye contact, Inhalation, Ingestion

Product AS SOLD

Symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
Respiratory tract irritation

Ingestion : Adverse symptoms may include the following:
stomach pains

Acute toxicity

Eye contact : Causes serious eye damage.

Skin contact : Causes severe burns.

Inhalation : May cause respiratory irritation.

Ingestion : May cause burns to mouth, throat and stomach.

Product AT USE DILUTION

Product is sold ready to use.

Toxicity data

Product/ingredient name	Result	Species	Dose
2-(2-butoxyethoxy)ethanol	LD50 Dermal	Rabbit	2764 mg/kg
	LD50 Oral	Rat	3306 mg/kg
butane	LC50 Inhalation Gas.	Rat	280000 ppm

Chronic toxicity

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Section 12. Ecological information

Product AS SOLD

Ecotoxicity : No known significant effects or critical hazards.

Aquatic and terrestrial toxicity

Product/ingredient name	Result	Species	Exposure
sodium hydroxide	Acute EC50 40 mg/l	Daphnia	48 hours
2-(2-butoxyethoxy)ethanol	Acute LC50 1300 mg/l	Fish	96 hours
butane	Acute LC50 22.03 mg/l	Fish	96 hours

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Product AS SOLD

Disposal methods : Avoid disposal. Attempt to use product completely in accordance with intended use. Disposal should be in accordance with applicable regional, national and local laws and regulations. Do not puncture or incinerate container. Discard empty container in trash.

RCRA classification : Unused product is D002 (Corrosive)

Product AT USE DILUTION

Product is sold ready to use.

Section 14. Transport information

Certain shipping modes or package sizes may have exceptions from the transport regulations. The classification provided may not reflect those exceptions and may not apply to all shipping modes or package sizes.

DOT

DOT Classification UN1950

DOT Proper shipping name Aerosols

Class 2.1

Packing group -

IMO/IMDG

IMO/IMDG Classification UN1950

IMO/IMDG Proper shipping name AEROSOLS

Class 2.1

Packing group -

For transport in bulk, see shipping documents for specific transportation information.

Product AT USE DILUTION

Not intended for transport.

Section 15. Regulatory information

Product AS SOLD

U.S. Federal regulations

TSCA 8(b) inventory : All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No listed substance

SARA 302/304 emergency planning and notification: No listed substance

<u>SARA 313</u>	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Form R - Reporting requirements	: 2-(2-butoxyethoxy)ethanol	112-34-5	1 - 5

California Prop. 65 : No listed substance

Section 16. Other information

Section 16. Other information

Product AS SOLD

Hazardous Material :
Information System (U.S.A.)

Health	*	3
Flammability		2
Physical hazards		0

National Fire Protection :
Association (U.S.A.)



NFPA Aerosol Level : Level 1

Date of issue : 07 Mar 2013
Prepared by : Regulatory Affairs
1-800-352-5326

Notice to reader

The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

SAFETY DATA SHEET

CLEAN FORCE STAINLESS STEEL CLEANER AND POLISH

Section 1. Chemical product and company identification

Product name : CLEAN FORCE STAINLESS STEEL CLEANER AND POLISH
Recommended use and restrictions : Metal Cleaner

Use only for the purpose on the product label.

Product dilution information : Not applicable

Supplier's information : PureForce
370 Wabasha Street North
St. Paul, MN 55102
1-866-444-7450

Code : 900096-04

Date of issue : **05 Sep 2013**

EMERGENCY HEALTH INFORMATION: 1-800-328-0026
Outside United States and Canada CALL 1-651-222-5352 (in USA)

Section 2. Hazards identification

GHS Classification : **Product AS SOLD**
FLAMMABLE AEROSOLS. - Category 2
GASES UNDER PRESSURE - Compressed gas
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Narcotic effects] - Category 3

GHS label elements

Signal word : Warning

Symbol : 

Hazard statements : Flammable aerosol.
Contains gas under pressure; may explode if heated.
May cause drowsiness and dizziness.

Precautionary statements

Prevention : Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Pressurized container: Do not pierce or burn, even after use. Use only outdoors or in a well-ventilated area. Avoid breathing vapor.

Response : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Storage : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Product AT USE DILUTION

Product is sold ready to use.

Section 2. Hazards identification

Disposal : See section 13 for waste disposal information.
Other hazards : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product AS SOLD

Hazardous ingredients	Concentration Range (%)	CAS number
white mineral oil, petroleum	5 - 20	8042-47-5
BUTANE	5 - 20	106-97-8
PROPANE	1 - 5	74-98-6
solvent naphtha (petroleum), medium aliph.	1 - 5	64742-88-7

Product AT USE DILUTION

Hazardous ingredients	Concentration Range (%)	CAS number
Product is sold ready to use.		

Section 4. First aid measures

	Product AS SOLD	Product AT USE DILUTION
Eye contact	: No known effect after eye contact. Rinse with water for a few minutes.	Product is sold ready to use.
Skin contact	: No known effect after skin contact. Rinse with water for a few minutes.	
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if you feel unwell.	
Ingestion	: Get medical attention if symptoms occur.	
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.	
Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.	

See toxicological information (section 11)

Section 5. Fire-fighting measures

Product AS SOLD

Suitable fire extinguishing media	: Use water spray, fog or foam.
Specific hazards arising from the chemical	: Flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide
Specific fire-fighting methods	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	:

Section 5. Fire-fighting measures

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

	Product AS SOLD
Personal precautions	: Use personal protective equipment as required.
Environmental precautions	: Avoid contact of large amounts of spilled material and runoff with soil and surface waterways.
Methods for cleaning up	: Use a water rinse for final clean-up.

Product AT USE DILUTION

Product is sold ready to use.

Section 7. Handling and storage

	Product AS SOLD
Handling	: Store and use away from heat, sparks, open flame or any other ignition source. Liquid and vapor under pressure. Do not puncture, incinerate or store the container at temperatures above 49°C (120°F) or in direct sunlight. Use only with adequate ventilation. Wash thoroughly after handling.
Storage	: Keep out of reach of children. Keep container tightly closed and sealed until ready for use. Keep container in a cool, well-ventilated area. Avoid all possible sources of ignition (spark or flame). Do not puncture or incinerate container. Store between the following temperatures: 5 and 45°C

Product AT USE DILUTION

Product is sold ready to use.

Section 8. Exposure controls/personal protection

Control parameters

Ingredient name	Exposure limits
white mineral oil, petroleum	ACGIH TLV (United States, 3/2012). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction NIOSH REL (United States, 6/2009). TWA: 5 mg/m ³ 10 hours. Form: Mist STEL: 10 mg/m ³ 15 minutes. Form: Mist OSHA PEL (United States, 6/2010). TWA: 5 mg/m ³ 8 hours.
BUTANE	ACGIH TLV (United States, 3/2012). TWA: 1000 ppm 8 hours. NIOSH REL (United States, 6/2009). TWA: 800 ppm 10 hours. TWA: 1900 mg/m ³ 10 hours.
PROPANE	ACGIH TLV (United States, 3/2012). TWA: 1000 ppm 8 hours. OSHA PEL (United States, 6/2010). TWA: 1800 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours. NIOSH REL (United States, 6/2009). TWA: 1000 ppm 10 hours.

Section 8. Exposure controls/personal protection

solvent naphtha (petroleum), medium aliph.

TWA: 1800 mg/m³ 10 hours.
OSHA PEL (United States, 6/2010).
 TWA: 100 ppm 8 hours.
 TWA: 400 mg/m³ 8 hours.

Product AS SOLD

Appropriate engineering controls

: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

Personal protection

Eye protection

: No protective equipment is needed under normal use conditions.

Hand protection

: No protective equipment is needed under normal use conditions.

Skin protection

: No protective equipment is needed under normal use conditions.

Respiratory protection

: A respirator is not needed under normal and intended conditions of product use.

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Product AT USE DILUTION

Product is sold ready to use.

Section 9. Physical and chemical properties

Product AS SOLD

Physical state

: Aerosol

Color

: White

Odor

: citrus

pH

: Not applicable

Flash point

: Not applicable

Explosion limits

: Lower: 1.8%
Upper: 9.5%

Flammability (solid, gas)

: Not available.

Melting point

: Not available.

Boiling point

: >100°C (>212°F)

Evaporation rate (butyl acetate = 1)

: Not available.

Vapor pressure

: Not available.

Vapor density

: Not available.

Relative density

: 0.894 to 0.951 (Water = 1)

Solubility

: Soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water

: Not available.

Product AT USE DILUTION

Product is sold ready to use.

Section 9. Physical and chemical properties

Auto-ignition temperature : Not available.
 Decomposition temperature : Not available.
 Odor threshold : Not available.
 Viscosity : Kinematic (40°C (104°F)): 63 cm²/s (6300 cSt)

Aerosol product

Type of aerosol : Spray
 Heat of combustion : 6.246 kJ/g
 Ignition distance : 0 cm
 Flame height : Not available.
 Flame duration : Not available.

Section 10. Stability and reactivity

Product AS SOLD

Stability : The product is stable.
 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
 Conditions to avoid : Avoid all possible sources of ignition (spark or flame).
 Materials to avoid : Highly reactive or incompatible with the following materials: oxidizing materials.
 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Route of exposure : Skin contact, Eye contact, Inhalation, Ingestion

Product AS SOLD

Symptoms

Eye contact : No specific data.
 Skin contact : No specific data.
 Inhalation : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
 nausea or vomiting
 headache
 drowsiness/fatigue
 dizziness/vertigo
 unconsciousness
 Ingestion : No specific data.

Acute toxicity

Eye contact : No known significant effects or critical hazards.
 Skin contact : No known significant effects or critical hazards.
 Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.
 Ingestion : Can cause central nervous system (CNS) depression.

Toxicity data

Product/ingredient name

Product AT USE DILUTION

Product is sold ready to use.

Section 11. Toxicological information

white mineral oil, petroleum	LC50 Inhalation Dusts and mists	Rat	>5.2 mg/l
	LD50 Dermal	Rabbit	>2000 mg/kg
	LD50 Oral	Rat	>5000 mg/kg
butane	LC50 Inhalation Gas.	Rat	280000 ppm
solvent naphtha (petroleum), medium aliph.	LD50 Dermal	Rabbit	>2000 mg/kg
	LD50 Oral	Rat	>5000 mg/kg

Chronic toxicity

Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

Section 12. Ecological information

Product AS SOLD

Ecotoxicity : No known significant effects or critical hazards.

Aquatic and terrestrial toxicity

Product/ingredient name	Result	Species	Exposure
white mineral oil, petroleum	Acute LC50 <100 mg/l	Fish	96 hours
butane	Acute LC50 22.03 mg/l	Fish	96 hours
solvent naphtha (petroleum), medium aliph.	Acute LC50 800 mg/l	Fish	96 hours

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Product AS SOLD

Disposal methods : Avoid disposal. Attempt to use product completely in accordance with intended use. Disposal should be in accordance with applicable regional, national and local laws and regulations. Do not puncture or incinerate container. Discard empty container in trash.

RCRA classification : Unused product is D001 (Ignitable)

Product AT USE DILUTION

Product is sold ready to use.

Section 14. Transport information

Certain shipping modes or package sizes may have exceptions from the transport regulations. The classification provided may not reflect those exceptions and may not apply to all shipping modes or package sizes.

DOT

DOT Classification	UN1950
DOT Proper shipping name	Aerosols
Class	2.1
Packing group	-

IMO/IMDG

IMO/IMDG Classification	UN1950
IMO/IMDG Proper shipping name	AEROSOLS
Class	2.1
Packing group	-

Section 14. Transport information

For transport in bulk, see shipping documents for specific transportation information.

Product AT USE DILUTION

Not intended for transport.

Section 15. Regulatory information

Product AS SOLD

U.S. Federal regulations

TSCA 8(b) inventory : All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No listed substance

SARA 302/304 emergency planning and notification: No listed substance

SARA 313

Product name

CAS number

Concentration

Form R - Reporting requirements : No listed substance

California Prop. 65 : No listed substance

Section 16. Other information

Product AS SOLD

Hazardous Material :
Information System (U.S.A.)

Health	*	0
Flammability		2
Physical hazards		0

National Fire Protection :
Association (U.S.A.)



NFPA Aerosol Level : Level 1

Date of issue : 05 Sep 2013

Prepared by : Regulatory Affairs
1-800-352-5326

Notice to reader

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FLOOR COATING AND FINISHING MATERIAL
AS TO SLIP RESISTANCE ONLY
17SU

Maintenance Solutions

Clean N' Shine

Cleaner/ Maintainer



For Use On:

Vinyl	Rubber	Terrazzo
Vinyl Asbestos	Concrete	Sealed Wood
Asphalt	Flagstone	Quarry Tile
Linoleum	Brick	Marble

DESCRIPTION

An all-purpose neutral cleaner/maintainer with superior cleaning power for use on any surface not effected by water. Ideal for use on sealed wood floors for cleaning and buffing finishes to a brilliant shine. Provides excellent emulsifying and penetrating action in both hot and cold water. Cleans, polishes, and preserves. Ideal for use with buffing programs. May be used for damp mopping, auto scrubbing or heavy duty cleaning.

DIRECTIONS

FOR DAMP MOPPING: Add 4 ounces of concentrate per gallon of water. Damp mop floors and allow to dry. Buff thoroughly with a polishing pad. For damp mopping without buffing, use 2 ounces per gallon of water.

FOR USE WITH AUTOMATIC SCRUBBERS: Add 4 ounces of concentrate per gallon of water to supply tank of automatic scrubber. Scrub floors in the usual manner and allow to dry. Buff with a polishing pad. Use 2 ounces per gallon of water if buffing is not required.

FOR HEAVY DUTY CLEANING: Add 8 ounces concentrate per gallon of water. Apply to surface, scrub, and rinse in the usual manner.

FOR USE ON WOOD FLOORS as a cleaner/maintainer: Add 4 ounces of concentrate per gallon of water. Damp mop floors, being careful not to overwet or puddle material, and allow to dry. Buff thoroughly with a polishing pad. For damp mopping without buffing, use 2 ounces per gallon of water.

This product meets the maximum content requirements for Volatile Organic Compounds (VOCs) as established by State and Federal regulations.

PRODUCT SPECIFICATIONS

Active Ingredients:	13.0 ± 0.5%	Solubility:	Complete with water
Color:	Brown	Emulsification:	Excellent
Odor:	Sassafras	Detergency:	Excellent
Base:	Natural & synthetic detergents	Rinsability:	Excellent
pH:	10.0 - 10.5	Flash Point:	None (waterbased)
Viscosity:	Moderately viscous	Biodegradability:	Complete
Foam:	Low	Storage/Stability:	2 years
Abrasives:	None	Weight per Gallon:	8.45 lbs./gal.
		Freeze / Thaw Stability:	Keep from freezing

Misco Products Corporation, Reading, PA (800) 548-4568 FAX (610) 926-1194
www.miscoprod.com

Floor Maintainers

SECTION 1-PRODUCT IDENTIFICATION AND SUPPLIER INFORMATION

Manufacturer's Name: Misco Products Corporation Manufacturer's Address: 1048 Stinson Drive Reading, PA 19605 Manufacturer's Phone #: (610) 926-4106	Product Name: Clean N' Shine Generic Name: Cleaner/Maintainer Chemical Family: Soap/Detergent Blend Formula: Proprietary	Supplier's Name: Supplier's Address: Supplier's Phone #:
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SECTION 2-INGREDIENT INFORMATION

CHEMICAL NAME	CAS NO.	WT. %	PEL	TWA-TLV	STEL-TLV
Water	7732-18-5	to 100			
Potassium Tall Oil Soap	61790-44-1	5 to 10			
Nonionic Surfactant	9016-45-9	0 to 5			
Tetrasodium EDTA	64-02-8	0 to 5			
Tetrasodium Pyrophosphate	7722-88-5	0 to 5			
Perfume Oils	N/A	0 to 5			
Dye	N/A	0 to 5			

SECTION 3-PHYSICAL DATA

Boiling Point (°F): 212 F.
Vapor Pressure: 20mm Hg @ 68 F.
% Volatile: 85+
Solubility in Water: Complete
Physical Description: Amber liquid with pleasant sassafras odor.

Specific Gravity: 1.02
Vapor Density (Air=1): >1
pH: 10.0-10.5
Evaporation Rate (Water=1): <1

SECTION 4-FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): N/A
Upper Explosion Limit: N/A
Lower Explosion Limit: N/A
Extinguishing Media: N/A
Special Firefighting Procedures: Non Flammable
Unusual Fire and Explosion Hazards: N/A

SECTION 5-REACTIVITY DATA

Stability: Stable
Hazards Decomposition Products: Will not occur.

Hazardous Polymerization: None
Incompatibility (Materials to Avoid): None

SECTION 6-STORAGE AND HANDLING INFORMATION

Keep out of reach of children. For use by trained personnel only. Keep unauthorized personnel away when applying to floor. Keep container closed during storage. For institutional and industrial use only. Avoid contact with eyes, skin and clothing. Wear rubber gloves when handling concentrate. Avoid breathing of vapors. Use in well-ventilated area.

SECTION 7-HEALTH HAZARDS AND FIRST AID

Effects of Overexposure:
Skin: Prolonged or repeated contact may cause dermatitis.
Eyes: Eye irritant. May cause redness or swelling.
Inhalation: N/A
Ingestion: May be irritating to the mouth, throat, and gastrointestinal system.
Vomiting and diarrhea expected with large doses.

First Aid Procedures:

Skin: Flush with water. Seek medical attention if irritation persists.
Eyes: Flush with large quantities of water, holding eyelids open. Seek medical attention.
Inhalation: N/A
Ingestion: Dilute with 2 glasses of water. Seek medical attention if symptoms persist.

SECTION 8-SPECIAL PROTECTION INFORMATION

Respiratory Protection: No special requirements.
Ventilation Requirements: Provide local exhaust to keep TLV of Section 2 ingredients below acceptable limit.
Protective Gloves: Chemical resistant rubber or neoprene.
Eye Protection: Chemical splash goggles
Other Protective Equipment: Protective footwear e.g. rubber boots when applying to floor. Eyewash center should be provided nearby.

SECTION 9-SPILL OR LEAK PROCEDURES

Steps to be taken in Case Material is Released or Spilled: Floors will become slippery. Avoid walking in product. Keep unessential personnel away. Mop up or otherwise absorb and hold disposal. Avoid discharge to sewer or open waterways.
Waste Disposal Method: Any method in accordance with local, state and federal laws. Best method is to recycle or reuse for intended purpose. Consult local authorities for disposal in public sewer. Do not dispose of into storm drain, stream, river or to ground. Rinse container thoroughly before discarding in trash.

SECTION 10-REGULATORY INFORMATION

SARA Title III - Section 311/312 -Hazard Categories:
No - Fire Hazard
No - Sudden Release of Pressure Hazard
No - Reactivity Hazard
Yes - Immediate (acute) Health Hazard
No - Delayed (chronic) Health Hazard

Shipping Information:
FOR CONTAINERS > 1 Gallon : Cleaning Compound

FOR 1 GALLON CONTAINERS : Cleaning Compound

FOR CONTAINERS < 1 GALLON : Cleaning Compound

HMIS Hazardous Materials
Identification System

Health	1
Flammability	0
Reactivity	0
Personal Protection	A

FOR EMERGENCY MEDICAL OR TRANSPORT INFORMATION: CHEM-TEL, Inc. @ 800-255-3924 (24 hours, 7 days per week)

This product contains the following toxic chemical(s) subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

CAS#	Chemical Name	Percent by Weight
	None	

This product contains the following chemical(s) which have been established to be either a carcinogen or suspected carcinogen.

CAS#	Chemical Name	Percent by Weight
	None	

SECTION 11-OTHER INFORMATION

This company cannot anticipate all conditions of handling and use of this product. Therefore, this company accepts no responsibility for results obtained by the application of this information, or the safety and suitability of our products either alone or in combination with other products. It is the responsibility of the user to provide a safe workplace, using the health and safety information contained herein as a guide. This company will accept no liability for damages or loss incurred from the improper handling and use of this product



Maintenance Solutions

Clean-Up

Waterless Cleaner



For Use On:

Wood
Concrete

Quarry Tile
Brick

Flagstone
Terrazzo

DESCRIPTION

A blend of refined solvents formulated for use in cleaning and preparing wood, concrete, terrazzo, quarry tile, and other hard surfaces prior to sealing and/or finishing. Easily removes most soil, dirt, oil, black heel marks, rubber burns, chewing gum and tar. Excellent for tack ragging wood, and as a clean-up solvent for application tools. Designed to evaporate quickly, leaving no greasy or oily residue to damage gloss and/or prevent bonding. Not for use on resilient tile.

DIRECTIONS

FOR USE ON WOOD FLOORS PRIOR TO COATING: Apply with a mop and bucket to areas of approximately 100 square feet. Immediately scrub with a scrubbing pad or steel wool. Pick up with a wet vacuum or mop. Rinse floor thoroughly with fresh product and allow one hour dry time prior to coating.

FOR TACKING OF FLOORS: Apply to clean cotton towels, making sure not to over-wet. Tack in usual manner.

FOR REMOVING TAR, RUBBER BURNS, CHEWING GUM ETC.: Apply to clean cotton cloth. Rub soiled area until clean. Apply directly to larger areas of soils or rubber burns and allow to soak for several minutes before wiping clean.

FOR PARTS AND MACHINERY CLEANING: Spray product directly from container and wipe dry. Immerse parts to be cleaned in solution. Wipe or air dry.

In federally inspected meat and poultry plants, equipment must be washed with an effective cleaner and rinsed with potable water.

PRODUCT SPECIFICATIONS

Active Ingredients:	100%	Water Miscibility:	None
Color:	Clear	Drying Time:	Rapid
Odor:	Solvent	Sediment:	None
Solvent Systems:	High K.B. mineral spirits	Storage/Stability:	2 years
Flash Point:	Greater than 100° F	Freeze/Thaw Stability:	Keep from freezing
Viscosity:	Water thin	Weight per Gallon:	6.87 lbs./gal.
Foam:	Low	Coverage:	300-400 ft ² per gal.

Wood Floor Care

SECTION 1-PRODUCT IDENTIFICATION AND SUPPLIER INFORMATION

Manufacturer's Name: Misco Products Corporation Manufacturer's Address: 1048 Stinson Drive Reading, PA 19605 Manufacturer's Phone #: (610) 926-4106	Product Name: Clean-Up Generic Name: Waterless Cleaner Chemical Family: Hydrocarbon Solvent Blend Formula: Proprietary	Supplier's Name: Supplier's Address: Supplier's Phone #:
--	---	---

SECTION 2-INGREDIENT INFORMATION

CHEMICAL NAME	CAS NO.	WT. %	PEL	TWA-TLV	STEL-TLV
Petroleum Distillates	64742-48-9	45 to 55	500 ppm	100 ppm	N/A
Aromatic Hydrocarbons	64742-95-6	45 to 55	500 ppm	50 ppm	N/A

SECTION 3-PHYSICAL DATA

Boiling Point (°F): 310 F. Initial
Vapor Pressure: <10mm Hg @ 68 F.
% Volatile: 100
Solubility in Water: Nil
Physical Description: Thin colorless liquid with characteristic odor.

Specific Gravity: .83
Vapor Density (Air=1): >1
pH: N/A
Evaporation Rate (Water=1): >1

SECTION 4-FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): 106 F. (TCC)
Upper Explosion Limit: 6.0
Lower Explosion Limit: .7
Extinguishing Media: Foam, CO₂, Dry Chemical
Special Firefighting Procedures: Do Not Use Water.
Unusual Fire and Explosion Hazards: Drums heated by fire can explode.

SECTION 5-REACTIVITY DATA

Stability: Stable
Hazards Decomposition Products: Carbon monoxide possible if burned.

Hazardous Polymerization: None
Incompatibility (Materials to Avoid): Strong oxidizers.

SECTION 6-STORAGE AND HANDLING INFORMATION

Keep out of reach of children. Combustible liquid. Avoid contact with excessive heat, spark or open flame. For use by trained personnel only. Keep unauthorized personnel away when applying to floor. Keep container closed during storage. For institutional and industrial use only. Avoid contact with eyes, skin and clothing. Avoid breathing of vapors. Use in well-ventilated area. Empty container may contain explosive or flammable vapors.

SECTION 7-HEALTH HAZARDS AND FIRST AID

Effects of Overexposure:
Skin: Prolonged or repeated contact may cause irritation, defatting of skin leading to dermatitis.
Eyes: Eye irritant. May cause redness, swelling, or blurred vision.
Inhalation: High concentration and/or long term exposure may irritate mucous membranes of the respiratory tract. Headaches, dizziness and nausea, as well as unconsciousness may result from overexposure to high concentrations over extended periods.
Ingestion: Liquid ingestion may result in vomiting. Aspiration of material into the lungs can cause pneumonitis and pulmonary edema/hemorrhage.
First Aid Procedures:
Skin: Remove contaminated clothing. Wash with soap and water. Seek medical attention if irritation persists.
Eyes: Flush with large quantities of water, holding eyelids open. Seek medical attention.
Inhalation: Get to fresh air. If breathing is difficult, give oxygen. Seek medical attention if symptoms persist.
Ingestion: Do not induce vomiting. DO NOT GIVE LIQUIDS. Seek medical attention immediately.

SECTION 8-SPECIAL PROTECTION INFORMATION

Respiratory Protection: Use with adequate ventilation. Use NIOSH approved Hydrocarbon (Organic vapor) canister respirator when using in confined areas.
Ventilation Requirements: Provide explosion-proof ventilation to keep TLV of Section 2 ingredients below acceptable limit.
Protective Gloves: Solvent proof neoprene or viton.
Eye Protection: Chemical splash goggles or full-face shield.
Other Protective Equipment: Spark resistant tools are recommended. Eyewash and fire extinguisher provided nearby when using. Full protective outerwear and chemical resistant footwear when using.

SECTION 9-SPILL OR LEAK PROCEDURES

Steps to be taken in Case Material is Released or Spilled: Immediately shut off all ignition sources. Dike or contain liquid. Avoid walking in product. Evacuate unessential personnel. Mop up or otherwise absorb and hold disposal. Avoid discharge to sewer or open waterways.
Waste Disposal Method: Any method in accordance with local, state and federal laws. Best method is to recycle or reuse for intended purpose. If discarded, this material and containers should be treated as hazardous waste based on the characteristic of ignitability as defined under federal RCRA regulations (40 CFR 261). Do not dispose of into storm drain, stream, river or to ground. Rinse container thoroughly before discarding in trash. Consult local or state environmental officials for further information.

SECTION 10-REGULATORY INFORMATION

SARA Title III - Section 311/312 -Hazard Categories:

Yes - Fire Hazard
No - Sudden Release of Pressure Hazard
No - Reactivity Hazard
Yes - Immediate (acute) Health Hazard
Yes - Delayed (chronic) Health Hazard

Shipping Information:

FOR CONTAINERS > 1 Gallon :, Cleaning Compound

FOR 1 GALLON CONTAINERS : Cleaning Compound

FOR CONTAINERS < 1 GALLON : Cleaning Compound

HMIS Hazardous Materials Identification System

Health	2
Flammability	2
Reactivity	0
Personal Protection	B

FOR EMERGENCY MEDICAL OR TRANSPORT INFORMATION: CHEM-TEL, Inc. @ 800-255-3924 (24 hours, 7 days per week)

This product contains the following toxic chemical(s) subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

CAS#	Chemical Name	Percent by Weight
	None	

This product contains the following chemical(s) which have been established to be either a carcinogen or suspected carcinogen.

CAS#	Chemical Name	Percent by Weight
	None	

SECTION 11-OTHER INFORMATION

This company cannot anticipate all conditions of handling and use of this product. Therefore, this company accepts no responsibility for results obtained by the application of this information, or the safety and suitability of our products either alone or in combination with other products. It is the responsibility of the user to provide a safe workplace, using the health and safety information contained herein as a guide. This company will accept no liability for damages or loss incurred from the improper handling and use of this product

Material Safety Data Sheet

CLEANFORCE DELIMER



Section 1. Chemical product and company identification

Trade name : CLEANFORCE DELIMER
Product use : Delimer
Supplier : Puritan Services Inc.
655 Lone Oak Drive
Eagan MN 55121
1-800-275-8914
Code : 942771-10
Date of issue : 10-May-2006

EMERGENCY HEALTH INFORMATION: 1-800-328-0026
Outside United States and Canada CALL 1-651-222-5352 (in USA)

Section 2. Composition, information on ingredients

Name	CAS number	% by weight
phosphoric acid	7664-38-2	30

Section 3. Hazards identification

Physical state : Liquid. (Liquid.)
Emergency : DANGER!
overview

CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS.
HARMFUL IF SWALLOWED.

Do not ingest. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Potential acute health effects

Eyes : Corrosive to eyes.
Skin : Corrosive to the skin.
Inhalation : Corrosive to the respiratory system.
Ingestion : Harmful if swallowed. Causes burns to mouth, throat and stomach.

See toxicological information (section 11)

Section 4. First aid measures

Eye contact : In case of contact, immediately flush eyes with cool running water. Remove contact lenses and continue flushing with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion : Rinse mouth; then drink one or two large glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5. Fire fighting measures

Flash point : > 100°C
Fire-fighting media and instructions : Use an extinguishing agent suitable for the surrounding fire.

Dike liquid for later disposal.
No specific hazard.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

- Personal precautions** : Ventilate area of leak or spill. Do not touch damaged containers or spilled material unless wearing appropriate protective equipment (Section 8). Stop leak if without risk. Do not allow to enter drains or watercourses.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

Section 7. Handling and storage

- Handling** : Do not ingest. Do not get in eyes, on skin or on clothing. Keep container closed. Do not mix with bleach or other chlorinated products – will cause chlorine gas. Use only with adequate ventilation. Do not breathe vapor or mist. Wash thoroughly after handling.
- Storage** : Keep out of the reach of children. Keep container tightly closed. Keep container in a cool, well-ventilated area.
Do not store above 50°C

Section 8. Exposure controls, personal protection

- Engineering controls** : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Provide eyewash and safety shower in area if contact or splash hazard exists.

Personal protection

- Eyes** : Use chemical splash goggles. For continued or severe exposure wear a face shield over the goggles.
- Hands** : Use chemical-resistant, impervious gloves.
- Skin** : Use synthetic apron, other protective equipment as necessary to prevent skin contact.
- Respiratory** : Wear appropriate respirator when ventilation is inadequate and occupational exposure limits are exceeded.

Name

phosphoric acid

Exposure limits

ACGIH TLV (United States, 1/2005).

STEL: 3 mg/m³ 15 minute/minutes. Form: All forms

TWA: 1 mg/m³ 8 hour(s). Form: All forms

OSHA PEL (United States, 8/1997).

TWA: 1 mg/m³ 8 hour(s). Form: All forms

Section 9. Physical and chemical properties

- Physical state** : Liquid. (Liquid.)
- Color** : Green.
- Odor** : Faint odor.
- pH** : 1.11 (100%)
- Specific gravity** : 1.188 (Water = 1)
- Dispersibility properties** : Easily dispersed in cold water, hot water.
- Solubility** : Easily soluble in cold water, hot water.

Section 10. Stability and reactivity

- Stability** : The product is stable.
- Reactivity** : Extremely reactive or incompatible with alkalis.
Reactive with metals.
Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Section 11. Toxicological information

Potential acute health effects

- Eyes** : Corrosive to eyes.
Skin : Corrosive to the skin.
Inhalation : Corrosive to the respiratory system.
Ingestion : Harmful if swallowed. Causes burns to mouth, throat and stomach.
Chronic effects on humans : Contains material which causes damage to the following organs: lungs, upper respiratory tract, skin, eye, lens or cornea.

Section 12. Ecological information

Products of degradation : These products are phosphates.

Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Waste classification : Unused product is D002 (Corrosive)

Consult your local or regional authorities.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Additional information
DOT Classification	UN1805	Phosphoric acid, liquid	8	III	Limited quantity Yes. Special provisions A7, IB3, IP3, N34, T4, TP1

APPLIES ONLY DURING ROAD TRANSPORT

Any variation of the shipping description based on the packaging is not addressed.

Section 15. Regulatory information

- HCS Classification** : Corrosive material
 Target organ effects
U.S. Federal regulations : SARA 302/304/311/312 extremely hazardous substances: No products were found.
 SARA 302/304 emergency planning and notification: No products were found.
TSCA 8(b) inventory : All materials are listed or exempt.
California Prop. 65 : No products were found.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :	Health	*	3
	Fire hazard		0
	Reactivity		0
	Personal protection		C

- Date of issue** : 10-May-2006.
Responsible name : Regulatory Affairs
Date of previous issue : 15-March-2005.

Notice to reader

The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

MATERIAL SAFETY DATA SHEET

NFPA RATING: Health = 1 Flammability = 0 Reactivity = 0
HMIS RATING: Health = 1/1 Flammability = 0 Reactivity = 0

SECTION I -- IDENTITY AND MANUFACTURER'S INFORMATION (527N-82A)

Manufacturer's Name: HILLYARD INDUSTRIES **Product Name:** CARPET PRE-SPRAY
Address: 302 North Fourth Street **Date Prepared:** December 23, 2008 (version 2)
 St. Joseph, MO 64501 **Prepared by:** Regulatory Affairs Department
Emergency Telephone No.: (800)-424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.) **Other information calls:** (816) 233-1321 (Ext. 8285)
<http://www.hillyard.com>

SECTION II -- INGREDIENTS/IDENTITY INFORMATION**Components**

(Specific Chemical Identity: Common Name(s))	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Water	7732-18-5	none	none	N/A	---
Sodium Xylene Sulfonate	1300-72-7	not established	not established	N/A	---
Complex Surfactant Blend	Unknown to Hillyard	not established	not established	N/A	---
Sodium Gluconate	527-07-1	not established	not established	N/A	---
Sodium Carbonate	497-19-8	not established	not established	N/A	---

VOS = 0%

***SECTION III -- PHYSICAL / CHEMICAL CHARACTERISTICS**

Boiling Point: 204°F **Specific Gravity (H₂O = 1):** 25°C = 1.06 & 39°C = 1.06
Vapor Pressure (mm Hg.): 17.5 **Percent Volatile by Volume (%):** 86.8
Vapor Density (AIR = 1): 0.6 **Evaporation Rate (ethyl ether = 1):** slower than 1
Solubility in Water: complete **Appearance and Odor:** clear, colorless liquid; nonobjectionable odor
***pH (concentrate) =** 9 – 10.0 ***pH (diluted 1:20) =** 9 – 10

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

Flash point: none (T.C.C.) **Flammable Limits:** LEL = N/A UEL = N/A
Extinguishing Media: Water fog, carbon dioxide, foam, dry chemical.
Special Fire Fighting Procedures: Self-contained positive pressure breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.
Unusual Fire and Explosion Hazards: N/A

SECTION V -- PHYSICAL HAZARDS

Stability: Stable **Conditions to Avoid:** N/A
Incompatibility (Materials to Avoid): Avoid strong oxidizing agents or strong mineral acids.
Hazardous Decomposition Products or Byproducts: Decomposition products under fire conditions: fumes of ammonia, carbon monoxide, carbon dioxide, oxides of nitrogen and various hydrocarbons.
Hazardous Polymerization: Will not occur **Conditions to Avoid:** N/A

SECTION VI -- HEALTH HAZARD DATA

Routes of entry: Inhalation? No Skin? No Ingestion? No

HEALTH HAZARDS (1. Acute and 2. Chronic)

1. Not a primary skin irritant per Federal Hazardous Substance Act. Prolonged contact with skin may cause slight irritation. Prolonged contact with eye may produce irritation. Concentrate not acute oral toxicity at 5 g/kg. 2. None known to Hillyard.

Chemical listed as Carcinogen or Potential Carcinogen:

National Toxicology Program = No I.A.R.C. Monographs = No OSHA = No

This product has no carcinogens listed by IARC, NTP, NIOSH, or ACGIH as of this date, greater than or equal to 0.1%.

Signs and Symptoms of Exposure: Concentrate may be irritating to eyes if not removed promptly. Breathing of highly concentrated vapors or spray mists may cause irritation to the respiratory tract.

Medical Conditions Generally Aggravated by Exposure: N/A

Emergency and First Aid Procedures: In case of contact, immediately flush eyes with plenty of water for 15 minutes; get medical attention. If inhaled, remove to fresh air. If breathing is difficult, get medical attention.

SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: Pick up with mop or wet vac and wash away with water. Spills of concentrate should be picked up with wet vac and rinsed thoroughly.

Waste Disposal Method: Wash down sewer with large quantity of water. Container disposal: Triple rinse (or equivalent), then offer clean, dry container for recycling or reconditioning.

Precautions To Be Taken In Handling And Storing: Freezing of product may rupture container. Product shelf life is best retained by storage at 45-100°F temperature.

Other Precautions: This product contains no reportable quantities of toxic chemicals subject to reporting requirements of Sec. 313 of SARA Title III Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR Part 372.

SECTION VIII -- CONTROL MEASURES:

Respiratory Protection (Specify Type): Not required

Ventilation:

Local Exhaust = Not required **Mechanical (General) =** N/A **Special =** N/A **Other =** N/A

Protective Gloves: None required **Eye Protection:** Safety goggles suggested where splash of concentrate is a concern.

Other Protective Clothing or Equipment: None required

Work / Hygienic Practices: Wash thoroughly after handling.

SECTION IX - TRANSPORTATION INFORMATION:

Applicable regulations: 49 CFR = no; IMCO = no; IATA = no

Proper shipping name: Cleaning compound

UN No.: not applicable **Limited Qty.:** not applicable **Hazard Class =** not applicable

Labels required: not required **DOT Exception:** not applicable

EPA Hazardous waste number / code: not listed

Hazardous waste characteristics:

Ignitability = not applicable; **Corrosivity =** not applicable; **Reactivity =** not applicable

DISCLAIMER OF WARRANTIES

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY NATURE ARE MADE WITH RESPECT TO THE PRODUCT(S) OR INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET.

The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate.

THE BUYER OR USER ASSUMES ALL RISKS ASSOCIATED WITH THE USE, MISUSE OR DISPOSAL OF THIS PRODUCT. THE BUYER OR USER IS RESPONSIBLE TO COMPLY WITH ALL FEDERAL, STATE OR LOCAL REGULATIONS CONCERNING THE USE, MISUSE OR DISPOSAL OF THESE PRODUCTS.

MATERIAL SAFETY DATA SHEET

EPA Reg. No. 1839-169-1658

EPA Est. No. 1658-MO-1

NFPA RATING: Health = 3 Flammability = 1 Reactivity = 0
 HMIS RATING: Health = 3 Flammability = 1 Reactivity = 0

SECTION I -- IDENTITY AND MANUFACTURER'S INFORMATION (543N-19A)

Manufacturer's Name: HILLYARD INDUSTRIES

Product Name: NON-ACID RESTROOM
DISINFECTANT/CLEANERAddress: 302 North Fourth Street
St. Joseph, MO 64501

Date Prepared: November 11, 2013 (version 5)

Prepared by: Regulatory Affairs Department

Emergency Telephone No.: (800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)

Other information calls: (816) 233-1321 (Ext. 8285)

<http://www.hillyard.com>

*SECTION II -- INGREDIENTS/IDENTITY INFORMATION

Components

(Specific Chemical Identity:

Common Name(s)	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Water	7732-18-5	N/E	N/A	N/A	82-87
Alkyl dimethyl benzyl ammonium chloride	68424-85-1	N/E	N/A	N/A	2.170
*Octyl decyl dimethyl ammonium chloride	32426-11-2	N/E	N/A	N/A	1.627
Dioctyl dimethyl ammonium chloride	5538-94-3	N/E	N/A	N/A	0.814
Didecyl dimethyl ammonium chloride	7173-51-5	N/E	N/A	N/A	0.814
N/E = Not Established		N/A = Not Applicable			

SECTION III -- PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: >201°F (PMCC) **Specific Gravity (H₂O = 1):** 25°C = 1.001 **Density:** 8.32 lb/gal.
Vapor Pressure (mm Hg.): 17.6 **Percent Volatile by Weight (%):** 91.5 – 92.5
Vapor Density (AIR = 1): 0.6 **Evaporation Rate (ethyl ether = 1):** Slower than 1
Solubility in Water: complete **Appearance and Odor:** Clear, blue liquid; floral fragrance
pH (concentrate): 6 – 7

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

Flash point: >200°F (PMCC) **Flammable Limits:** LEL = Not applicable UEL = Not applicable
Extinguishing Media: Dry chemical, foam, carbon dioxide, water fog
Special Fire Fighting Procedures: Firefighters should wear full fire-fighting turn-out gear (full Bunker gear) including NIOSH-approved self-contained breathing apparatus with full face-piece operated in the pressure demand or other positive pressure mode.

SECTION V -- PHYSICAL HAZARDS

Stability: Stable **Conditions to Avoid:** Avoid strong oxidizing agents
Incompatibility (Materials to Avoid): Anionic Compounds and strong oxidizing agents
Hazardous Decomposition Products or Byproducts: Upon decomposition, this product may yield oxides of nitrogen and ammonia.
Hazardous Polymerization: Will not occur **Conditions to Avoid:** None known to Hillyard

SECTION VI -- HEALTH HAZARD DATA

Routes of entry: Inhalation? Yes Skin? yes Eye? Yes Ingestion? Yes

HEALTH HAZARDS (1. Acute and 2. Chronic)

1. Causes irreversible eye damage and skin burns. May be fatal if absorbed through the skin. Do not get in eyes, on skin or on clothing. Wear protective eyewear (goggles or face shield), clothing, and gloves when handling. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash before reuse. Inhalation of fine fog mist can cause irritation of mucous membranes. Fine fog mist application is not recommended. 2. None known to Hillyard

Chemical listed as Carcinogen or Potential Carcinogen:**National Toxicology Program =** No **I.A.R.C. Monographs =** No **OSHA =** No

Signs and Symptoms of Exposure: High vapor or aerosol mist concentrations may be irritating to the nose, throat and upper respiratory tract. Excessive inhalation of this material causes headache, dizziness, nausea and loss of motor skills. May cause moderate to severe skin irritation.

SECTION VI -- HEALTH HAZARD DATA continued:

Medical Conditions Generally Aggravated by Exposure: None known to manufacturer.

Emergency and First Aid Procedures: **If in eyes:** Hold eye(s) open and rinse slowly and gently with water for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. **If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Get medical attention. **If inhaled:** Immediately move person to fresh air. If affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Seek medical attention. **Ingestion:** If the material is swallowed, get immediate medical attention or advice. Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Do not induce vomiting. **NOTE TO PHYSICIAN:** If the product is ingested, probable mucosal damage may contraindicate the use of gastric lavage. Treat the affected person appropriately.

SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE

Caution: Floors may become slippery. Isolate spill or leak area immediately. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. Wear appropriate personal protective equipment during clean-up.

Small Spills: Absorb with earth, sand or other non-combustible materials. Transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. **Large Spills:** Dike ahead of liquid spill for later disposal. Keep spill out of sewers and open bodies of water.

Container Disposal: Do not reuse empty container. Triple rinse empty container with water. Return metal drum then offer for reconditioning or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Plastic containers may be disposed of in a sanitary landfill, incinerated, or if allowed by local authorities, by burning. If burned, stay out of smoke. Offer for recycling if available. For containers 1 gallon or less: Do not reuse empty container (bottle, can, bucket). Wrap container and put in trash. **Pesticide Disposal** – Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Precautions To Be Taken In Handling And Storing: Avoid contact with skin and eyes. Avoid breathing vapors or mists of this product. Wash hands before drinking, smoking or using toilet facilities. As with all chemicals, good industrial hygiene practices should be followed when handling this material.

Storage Procedures: Do not contaminate water, food or feed by storage or disposal. Keep the container tightly closed and in a cool well-ventilated place. Avoid freezing or excessive heat.

SECTION VIII -- CONTROL MEASURES

Engineering Controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory Protection: If exposure limits are exceeded or if irritation is experienced, NIOSH approved respiratory protection should be worn. **Protective Gloves:** Use impervious gloves. **Eye Protection:** Wear chemical goggles and face shield.

Clothing or Equipment: Eye wash fountain and emergency showers are recommended.

SECTION IX - TRANSPORTATION INFORMATION

Applicable regulations: 49 CFR = No; IMCO = No; IATA = No

Proper shipping name: Cleaning Compound; **UN No.:** Not applicable; **Limited Qty.:** Not applicable;

Hazard Class: Not applicable

Labels required: Not required **Exception:** Not applicable

EPA Hazardous waste number/code: Not listed

Hazardous waste characteristics: **Ignitability** = Not applicable; **Corrosivity** = Not applicable; **Reactivity** = Not applicable

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MATERIAL SAFETY DATA SHEET

NFPA RATING: Health = 3 Flammability = 0 Reactivity = 0
HMIS RATING: Health = 3 Flammability = 0 Reactivity = 0

SECTION I -- IDENTITY AND MANUFACTURER'S INFORMATION (0442C)

Manufacturer's Name: HILLYARD INDUSTRIES**Product Name:** RE-JUV-NAL 165**Address:** 302 North Fourth Street
St. Joseph, MO 64501**Date Prepared:** May 13, 1994**Prepared by:** Regulatory Affairs Department**Emergency Telephone No.:** (800)-424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)**Other information calls:** (816) 233-1321 (Ext. 2303)

www.hillyard.com

SECTION II -- INGREDIENTS/IDENTITY INFORMATION

Components (Specific Chemical Identity: Common Name(s))	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Octyl Decyl Dimethyl Ammonium Chloride					
Diocetyl Dimethyl Ammonium Chloride					
Didecyl Dimethyl Ammonium Chloride					
OR					
Di-N-Alkyl (C ₈ /C ₁₀ -50%; C ₁₀ /C ₁₀ -30%; C ₈ /C ₈ -20%) dimethyl ammonium chloride	68424-95-3	not established	not established	N/A	1.08
Alkyl (C ₁₄ , 50%; C ₁₂ , 40%; C ₁₆ , 10%) Dimethyl Benzyl Ammonium Chloride	68424-85-1	not established	not established	N/A	0.72
Ethanol	64-17-5	1000 ppm	1000ppm	N/A	less than 2%
Sodium metasilicate	6434-92-0	not established	not established	2 mg/m ³	0.2 - 0.7
Water	7732-18-5	none	none	N/A	---
Tetrasodium ethylene diamine tetraacetate	64-02-8	not established	not established	N/A	---
Nonylphenol Ethoxylate	9016-45-9	not established	not established	N/A	---

SECTION III -- PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: 738 mm 202°F **Specific Gravity (H₂O = 1):** 25°C = 1.01 & 39°C = 1.01
Vapor Pressure (mm Hg.): 17.6 **Percent Volatile by Volume (%):** 92.6
Vapor Density (AIR = 1): less than 1 **Evaporation Rate (ethyl ether = 1):** slower than 1
Solubility in Water: appreciable **Appearance and Odor:** red liquid; floral odor
pH of concentrate: 12.4 -13.4

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

Flash point: None to boiling (T.C.C.) **Flammable Limits:** LEL = N/A UEL = N/A**Extinguishing Media:** Water, dry chemical, carbon dioxide, foam**Special Fire Fighting Procedures:** Wear MSHA/NIOSH approved self-contained breathing apparatus. Cool fire-exposed containers with water spray.**Unusual Fire and Explosion Hazards:** Products of combustion are toxic.

SECTION V -- PHYSICAL HAZARDS

Stability: Stable **Conditions to Avoid:** Do not mix with anionic cleaners.**Incompatibility (Materials to Avoid):** Oxidizing materials**Hazardous Decomposition Products or Byproducts:** Carbon dioxide, carbon monoxide, ammonia, nitrous oxides, hydrogen chloride**Hazardous Polymerization:** Will not occur **Conditions to Avoid:** none known

SECTION VI -- HEALTH HAZARD DATA

Routes of entry: Inhalation? yes Skin? yes Ingestion? yes**HEALTH HAZARDS (1. Acute and 2. Chronic)**

1. Concentrate is corrosive to all body tissue with which it comes in contact.
2. Prolonged and repeated exposure to the skin may produce dermatitis. Fine fog mist application is not recommended.

Chemical listed as Carcinogen or Potential Carcinogen:

National Toxicology Program = No

I.A.R.C. Monographs = No

OSHA = No

SECTION VI -- HEALTH HAZARD DATA cont.

Signs and Symptoms of Exposure: Direct eye contact can cause severe damage; repeated skin contact can cause severe irritation; concentrate is corrosive to eyes and skin. Ingestion of concentrate: immediate burning pain in mouth, throat, abdomen and severe swelling of larynx, skeletal muscle paralysis and affecting the ability to breathe.

Medical Conditions Generally Aggravated by Exposure: Skin problems such as industrial dermatitis.

Emergency and First Aid Procedures: In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes call a physician. Remove and wash contaminated clothing before reuse. If swallowed, drink promptly a large quantity of egg whites, gelatin solution or if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately. Note to physician: Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: Dike and contain spill with inert material (sand, earth, etc.) and transfer liquid and solid separately to containers for recovery or disposal. Small spills: Flush with water and pick up with wet vac or mop when on inside flooring. The pH of the concentrate is 12.4-13.4, thus concentrate is defined as corrosive per EPA Hazardous Waste Classification; when diluted with normal tap water for use to pH below 12.5 is not corrosive per EPA definition but still a pesticide waste.

Waste Disposal Method: Pesticide wastes are acutely hazardous. Do not contaminate water, food or feed by storage or disposal. If these wastes cannot be disposed of by use according to label instructions contact you state pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Office for guidance.

Precautions To Be Taken In Handling And Storing: Do not store on side. Avoid creasing or impacting of side walls of package.

Other Precautions: Container disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities by burning. If burned stay out of smoke. This product contains no reportable quantities of toxic chemicals subject to reporting requirements of Section 313 of SARA Title III Emergency Planning and Community Right to Know Act of 1986 and 40 CFR Part 372.

SECTION VIII -- CONTROL MEASURES

Respiratory Protection (Specify Type): None normally required. If exposed to fine mist droplets of less than 15 microns, a NIOSH/MSHA approved respirator should be worn.

Ventilation: 10 air changes per hour recommended

Local Exhaust = N/A **Mechanical (General) =** recommended **Special =** N/A **Other =** N/A

Protective Gloves: rubber or neoprene with concentrate **Eye Protection:** chemical goggles or face shield with concentrate

Other Protective Clothing or Equipment: None

Work / Hygienic Practices: Wash thoroughly after handling.

SECTION IX - TRANSPORTATION INFORMATION

Applicable regulations: 49 CFR = no; IMCO = no; IATA = no.

Proper shipping name: Cleaning Compound

UN No.: not applicable **Limited Qty.:** not applicable

Hazard Class: not applicable

Labels required: not required **DOT Exception:** not applicable

EPA Hazardous waste number/code: not listed

Hazardous waste characteristics:

Ignitability = not applicable; **Corrosivity =** yes; **Reactivity =** not applicable.

DISCLAIMER OF WARRANTIES

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY NATURE ARE MADE WITH RESPECT TO THE PRODUCT(S) OR INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET.

The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate.

THE BUYER OR USER ASSUMES ALL RISKS ASSOCIATED WITH THE USE, MISUSE OR DISPOSAL OF THIS PRODUCT. THE BUYER OR USER IS RESPONSIBLE TO COMPLY WITH ALL FEDERAL, STATE OR LOCAL REGULATIONS CONCERNING THE USE, MISUSE OR DISPOSAL OF THESE PRODUCTS.

1. Identification

Product identifier	SUPROX
Other means of identification	
SDS number	548N-84A
Product code	HIL00833
Recommended use	General Cleaner
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Manufacturer	
Company name	HILLYARD INDUSTRIES
Address	302 North Fourth St. St. Joseph, MO 64501
Contact person	Regulatory Affairs
Telephone number	(816) 233-1321 (Ext. 8285)
Fax	(816) 383-8485
E-mail	regulatoryaffairs@hillyard.com
Emergency telephone #	(800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 1
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Danger
Hazard statement	Causes serious eye damage. May be harmful if swallowed. May cause respiratory irritation. May cause skin irritation.
Precautionary statement	
Prevention	Do not get in eyes, on skin, and clothing. Do not ingest. If prolonged or repeated contact with concentrate is possible, wear rubber or other impervious gloves and splash goggles. Use only as directed: Improper dilution can lead to adverse health effects.
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If on skin: Wash with plenty of water. Get medical attention if irritation develops and persists. If inhaled: Remove person to fresh air and keep comfortable for breathing.
Storage	Store away from incompatible materials.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law. Waste from normal use may be sewered to a public-owned treatment works in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Q3 Videt			9
Hydrogen Peroxide		7722-84-1	5 - < 10
Fragrance			< 0.3
Other components below reportable levels			80 - < 90

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth thoroughly. If swallowed, do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not get this material in contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	PEL	1.4 mg/m3
		1 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	TWA	1 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	TWA	1.4 mg/m3
		1 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection

Do not get in eyes. Chemical safety goggles when working with concentrate.

Skin protection

Hand protection

Wear protective gloves. Neoprene or butyl rubber gloves are recommended.

Other

Avoid contact with the skin. Wear suitable protective clothing and gloves. Wear suitable protective clothing.

Respiratory protection

Not normally required with adequate ventilation.

Thermal hazards

None known.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Clear, yellow liquid (yellow color fades with age)

Physical state

Liquid.

Form

Liquid.

Color

Colourless to light yellow.

Odor

Citrus odor

Odor threshold

Not Available

pH

3.5 - 4.6
6.5 - 7.5 Diluted 1:25

Melting point/freezing point

Not Available

Initial boiling point and boiling range

206 °F (96.67 °C)

Flash point

> 200.0 °F (> 93.3 °C) Tag Closed Cup

Evaporation rate

< 1 Ethyl ether = 1

Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17.6 mm Hg
Vapor density	0.62 Air=1
Relative density	1.027 at 77°F
Solubility(ies)	
Solubility (water)	Complete
Partition coefficient (n-octanol/water)	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Viscosity	Not Available
Other information	
Density	8.55 lb/gal
Percent volatile	92 - 94 %
Specific gravity	1.03
VOC (Weight %)	0 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Metals. Strong reducing agents. Alkalies. Combustible material. Heavy Metal Salts
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye damage.
Ingestion	Expected to be a low ingestion hazard.
SUPROX	5000 mg/kg

Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
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Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
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Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
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IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrogen Peroxide (CAS 7722-84-1)	3 Not classifiable as to carcinogenicity to humans.
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US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Prolonged inhalation may be harmful.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Waste from normal product use may be sewered to a public owned treatment works (POTW) in compliance with applicable Federal, State, and local pretreatment requirements.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning.

14. Transport information

DOT

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Hydrogen Peroxide (CAS 7722-84-1) 1000 LBS

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
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Hydrogen Peroxide	7722-84-1	1000	1000 lbs		
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SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Hydrogen Peroxide (CAS 7722-84-1)

US. New Jersey Worker and Community Right-to-Know Act

Hydrogen Peroxide (CAS 7722-84-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Hydrogen Peroxide (CAS 7722-84-1)

US. Rhode Island RTK

Hydrogen Peroxide (CAS 7722-84-1)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-24-2015

Version # 01

Further information This product meets Green Seal™ Standard GS-37 based on effective performance, concentrated volume, minimized/recycled packaging and protective limits on: VOCs and human & environmental toxicity. Acute toxicity, skin and eye damage met requirements at the as-used dilution, as specified for closed dilution systems. GreenSeal.org.

HMIS® ratings
Health: 3
Flammability: 0
Physical hazard: 1

Disclaimer No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

1. Identification

Product identifier	SUPROX-D
Other means of identification	
SDS number	554N-27C
Product code	HIL00832
Product registration number	1839-224-1658
Recommended use	Disinfectant/Cleaner
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Manufacturer Company name	HILLYARD INDUSTRIES
Address	302 North Fourth St. St. Joseph, MO 64501
Contact person	Regulatory Affairs
Telephone number	(816) 233-1321 (Ext. 8285)
Fax	(816) 383-8485
E-mail	regulatoryaffairs@hillyard.com
Emergency telephone #	(800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 4
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Danger
Hazard statement	Combustible liquid. Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not breathe mist or vapor. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.
Storage	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Hydrogen Peroxide		7722-84-1	5 - < 10
Alkyl dimethyl benzyl ammonium chloride (C12-16)		68424-85-1	1 - < 3
Other components below reportable levels			90 - 100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Combustible liquid.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Should not be released into the environment.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS). DO NOT CONTAMINATE WATER, FOOD, OR FEED BY STORAGE OR DISPOSAL. CONTAINER STORAGE – Keep product under locked storage, inaccessible to children.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	PEL	1.4 mg/m3
		1 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	TWA	1 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hydrogen Peroxide (CAS 7722-84-1)	TWA	1.4 mg/m3
		1 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Chemical splash goggles where there is a potential for eye contact.
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Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	Not normally required with adequate ventilation. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	None known.
General hygiene considerations	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear, colorless liquid
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Non-objectionable, No Fragrance
Odor threshold	Not available
pH	1.7 - 2.7 concentrate
Melting point/freezing point	Not applicable / Not available
Initial boiling point and boiling range	206 °F (96.67 °C) Corr.
Flash point	> 160.0 °F (> 71.1 °C) Tag Closed Cup
Evaporation rate	< 1 Ethyl ether = 1
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17.65 mm Hg
Vapor density	0.632 Air=1
Relative density	1.02 at 77°F
Solubility(ies)	
Solubility (water)	100 % Complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	8.49 lb/gal
Percent volatile	93 - 94 %
VOC (Weight %)	0.72 %

10. Stability and reactivity

Reactivity	Reacts violently with strong alkaline substances. This product may react with reducing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Bases. Reducing agents.

Hazardous decomposition products

No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Not available.

Product	Species	Test Results
SUPROX-D		
Acute		
<i>Inhalation</i>		
LC50	Mouse	4913.6953 mg/l, 4 Hours estimated
<i>Oral</i>		
LD50	Guinea pig	705.5563 g/kg estimated
	Mouse	26428.5332 mg/kg estimated
	Rat	8706.8926 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrogen Peroxide (CAS 7722-84-1)

3 Not classifiable as to carcinogenicity to humans.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard Prolonged inhalation may be harmful.

Chronic effects May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects. Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Product	Species	Test Results
SUPROX-D		
Aquatic		
Fish	LC50	Fish
		67.1969 mg/l, 96 hours estimated

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
	CONTAINER DISPOSAL – Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container promptly after emptying. Triple rinse as follows: Fill container ¼ full with water and recap. Agitate vigorously. Follow Pesticide Disposal instructions for rinsate disposal. Drain for 10 seconds after the flow begins to drip. Repeat procedure two more times. Then offer for recycling or reconditioning. If not available, puncture and dispose in a sanitary landfill.

14. Transport information

DOT	Not regulated as dangerous goods.
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15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed.
SARA 304 Emergency release notification	
	Hydrogen Peroxide (CAS 7722-84-1) 1000 LBS
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
	Not listed.
Superfund Amendments and Reauthorization Act of 1986 (SARA)	
Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
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Hydrogen Peroxide	7722-84-1	1000	1000 lbs		
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SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

FIFRA Information

FIFRA: This product is a U.S. EPA Registered pesticide, EPA Reg. No. 1839-224-1658, and is subject to certain labeling requirements under Federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide products. The hazard information required on the pesticide label is reproduced here.

PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS.
DANGER Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed or inhaled. Do not get in eyes, on skin or on clothing. Wear eye protection (goggles, safety glasses with side shields, or face shield). Wear coveralls worn over long-sleeved shirts and long pants, chemical resistant gloves, socks, and chemical resistant footwear. Avoid contamination of food. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash clothing before reuse.

KEEP OUT OF REACH OF CHILDREN.

DANGER.

FIRST AID: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN Probable mucosal damage may contraindicate the use of gastric lavage.

US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

Hydrogen Peroxide (CAS 7722-84-1)

US. New Jersey Worker and Community Right-to-Know Act

Hydrogen Peroxide (CAS 7722-84-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Hydrogen Peroxide (CAS 7722-84-1)

US. Rhode Island RTK

Hydrogen Peroxide (CAS 7722-84-1)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 04-28-2015

Version # 01

HMIS® ratings Health: 3*
Flammability: 2
Physical hazard: 0

Disclaimer No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.



MATERIAL SAFETY DATA SHEET

MSDS Number: 1400C

Section 1 PRODUCT AND COMPANY IDENTIFICATION

Trade Name: OATEY CANADIAN CLEAR CLEANER
Product Nos.: 30766, 31493, 31494, 31495, 31496, 31520, 31521, 31522, 31523
Product Use: Cleaner for cementing plastic pipe
Formula: See Section 3
Synonyms: Cleaner
Firm Name & Address: Oatey Company 4700 West 160th Street, Cleveland, Ohio 44135
www.oatey.com
Firm Phone No: (216) 267-7100
Emergency Phone Nos.: For Emergency First Aid call 1-877-740-5015. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1-703-527-3887.
Prepared by: Technical Department
Preparation Date: 09/11/2012

Section 2 HAZARDS IDENTIFICATION

Emergency Overview:
Clear liquid with a sharp, penetrating odor. Extremely flammable liquid and vapor. Vapors may cause flash fire. May cause eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects. Swallowing may cause irritation, nausea, vomiting, diarrhea and kidney or liver disorders. Aspiration hazard. May be fatal if swallowed. Symptoms may be delayed.

Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENTS:</u>	<u>%wt/wt :</u>	<u>CAS NUMBER:</u>	<u>ACGIH TLV TWA:</u>	<u>OSHA PEL TWA</u>	<u>OTHER:</u>
Methyl Ethyl Ketone	40 - 70%	78-93-3	200 ppm 300 ppm	200 ppm	None
Acetone	40 - 70%	67-64-1	500 ppm 750 ppm STEL	1000 ppm	None

OSHA Hazard Classification: Flammable, irritant, organ effects

Section 4 FIRST AID MEASURES

Skin: Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with Oatey Plumber's Hand Cleaner or baby oil.
Eyes: If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.
Inhalation: If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.
Ingestion: **DO NOT INDUCE VOMITING.** Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

Section 5 **FIRE FIGHTING MEASURES**
Flashpoint / 14 - 23 Degrees F. (-10 to -5 Degrees C) / CCCFP
Method:
Flammability: LEL = 1.8 % Volume, UEL = 11.8 % Volume
Extinguishing Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container
Media: with water. Water may be ineffective as an extinguishing agent.
Special Fire Firefighters should wear positive pressure self-contained breathing apparatus
Fighting and full protective clothing for fires in areas where chemicals are used or
Procedure: stored
Unusual Fire Extremely flammable liquid. Keep away from heat and all sources of ignition
And Explosion including sparks, flames, lighted cigarettes and pilot lights. Containers may
Hazards: rupture or explode in the heat of a fire. Vapors are heavier than air and may
 travel to a remote ignition source and flash back.
Hazardous Combustion will produce toxic and irritating vapors including carbon monoxide,
Decomposition carbon dioxide and hydrogen chloride.
Products:

Section 6 **ACCIDENTAL RELEASE MEASURES**
Spill or Leak Remove all sources of ignition and ventilate area. Stop leak if it can be done
Procedures: without risk. Personnel cleaning up the spill should wear appropriate personal
 protective equipment, including respirators if vapor concentrations are high.
 Soak up spill with an inert absorbent such as sand, earth or other non-
 combusting material. Put absorbent material in covered, labeled metal
 containers. Prevent liquid from entering watercourses, sewers and natural
 waterways. Report releases to authorities as required. See Section 13 for
 disposal information.

Section 7 **HANDLING AND STORAGE**
Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists.
 Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after
 handling. Do not eat, drink or smoke in the work area. Keep product away from
 heat, sparks, flames and all other sources of ignition. No smoking in storage
 or use areas. Keep containers closed when not in use.
Storage: Store in a cool, dry, well-ventilated area away from incompatible materials.
 Keep containers closed when not in use.
Other: "Empty" containers retain product residue and can be hazardous. Follow all MSDS
 precautions in handling empty containers. Do not cut or weld on or near empty
 or full containers.

Section 8 **EXPOSURE CONTROLS/PERSONAL PROTECTION**
Ventilation: Open doors & windows. Provide ventilation capable of maintaining emissions at
 the point of use below recommended exposure limits. If used in enclosed area,
 use exhaust fans. Exhaust fans should be explosion-proof or set up in a way
 that flammable concentrations of solvent vapors are not exposed to electrical
 fixtures or hot surfaces.
Respiratory For operations where the exposure limit may be exceeded, a NIOSH approved
Protection: organic vapor respirator or supplied air respirator is recommended. Equipment
 selection depends on contaminant type and concentration, select in accordance
 with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting,
 use self-contained breathing apparatus.
Skin Rubber gloves are suitable for normal use of the product. For long exposures
Protection: chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm)
 to avoid prolonged skin contact.
Eye Safety glasses with side shields or safety goggles.
Protection:

Section 9 **PHYSICAL AND CHEMICAL PROPERTIES**

Boiling Point: 133 Degrees F / 56 Degrees C
Melting Point: Not applicable
Vapor Pressure: 145 mmHg @ 20 Degrees C
Vapor Density: (Air = 1) 2.5
Volatile Components: 100%

Solubility In Water:	Negligible
pH:	Not applicable
Specific Gravity:	0.81 +/- 0.02 @ 20 Degrees C
Evaporation Rate:	(BUAC = 1) = 5.5 - 8.0
Appearance:	Clear Liquid
Odor:	Sharp, penetrating odor
Will Dissolve In:	Methyl Ethyl Ketone
Material Is:	Liquid

Section 10 STABILITY AND REACTIVITY

Stability: Stable.

Conditions To Avoid: Avoid heat, sparks, flames and other sources of ignition.

Hazardous Decomposition Products: Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

Incompatibility/ Materials To Avoid: Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. May attack plastic, resins and rubber.

Hazardous Polymerization: Will not occur.

Section 11 TOXICOLOGICAL INFORMATION

Inhalation: Vapors or mists may cause mucous membrane and respiratory irritation, coughing, headache, dizziness, dullness, nausea, shortness of breath and vomiting. High concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

Skin: May cause irritation with redness, itching and pain. Methyl ethyl ketone may be absorbed through the skin causing effects similar to those listed under inhalation.

Eye: Vapors may cause irritation. Direct contact may cause irritation with redness, stinging and tearing of the eyes. May cause eye damage.

Ingestion: Swallowing may cause abdominal pain, nausea, vomiting and diarrhea. Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

Chronic Toxicity: Prolonged or repeated overexposure cause dermatitis and damage to the kidney, liver, lungs and central nervous system.

Toxicity Data:

Acetone:	Oral rat LD50: 5,800 mg/kg
	Inhalation rat LC50: 50,100 mg/m3/8 hours
Methyl Ethyl Ketone:	Oral rat LD50: 2,737 mg/kg
	Inhalation rat LC50: 23,500 mg/m3/8 hours
	Skin rabbit LD50: 6,480 mg/kg

Sensitization: None of the components are known to cause sensitization.

Carcinogenicity: None of the components are listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA.

Mutagenicity: Acetone, methyl ethyl ketone are generally thought not to be mutagenic.

Reproductive Toxicity: Methyl ethyl ketone has been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone has been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.

Medical Conditions Aggravated By Exposure: Persons with pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.

Section 12 ECOLOGICAL INFORMATION

This product is not expected to be toxic to aquatic organisms.

Acetone: 96 hour LC50 for fish is greater than 100 mg/L.

Methyl Ethyl Ketone: 96 hour LC50 for fish is greater than 100 mg/L.

VOC Information: This product emits VOC's (volatile organic compounds) in its use. Make sure that use of this product complies with local VOC emission regulations, where they exist.

VOC Level: Maximum 550 g/L per SCAQMD Test Method 316A.

Section 13 DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with current local, state and federal regulations.

RCRA Hazardous Waste Number: U002, U159,

EPA Hazardous Waste ID Number: D001, D035, F003, F0005

EPA Hazard Waste Number: Ignitable Waste. Toxic Waste (Methyl Ethyl Ketone content)

Section 14 TRANSPORT INFORMATION

	<u>Less than 1 Liter (0.3 gal)</u>	<u>Greater than 1 Liter (0.3 gal)</u>
UN/NA Number:	None	UN1993
Proper Shipping Name:	Consumer Commodity	Flammable Liquid, NOS (Methyl Ethyl Ketone, Acetone)
Hazard Class:	ORM-D	3
Packing Group:	None	PGII
Hazard Labels:	None	Flammable Liquid
IMDG		
UN Number:	UN1993	UN1993
Proper Shipping Name:	Flammable Liquid, NOS (Limited Quantity)	Flammable Liquid, NOS (Methyl Ethyl Ketone, Acetone)
Hazard Class:	3	3
Packing Group:	II	II
Label:	None (Limited Quantities are expected from labeling)	Class 3 (Flammable Liquid)
Flashpoint (deg C)	-10 to -5 Degrees C	-10 to -5 Degrees C

2008 North American Emergency Response Guidebook Number: 127

Section 15 REGULATORY INFORMATION

Hazard Category for Section 311/312: Acute Health, Chronic Health, Flammable

Section 302: This product does not contain chemicals regulated under SARA Section 302.

Extremely Hazardous Substances (TPQ):

Section 313 Toxic Chemicals: This product does not contain chemicals subject to SARA Title III Section 313 Reporting requirements.

CERCLA 103 Reportable Quantity: Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Methyl Ethyl Ketone (70% maximum) of 5,000 lbs, is 7,143 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

California Proposition 65: This product does not contain any chemicals subject to California Proposition 65 regulations.

TSCA Inventory Classification: All of the components of this product are listed on the TSCA inventory. Class B, Division 2; Class D, Division 2, Subdivision B; Class D, Division 2, Subdivision A. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Section 16**OTHER INFORMATION**

NFPA and HMIS:

NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None

HMIS Hazard Signal: Health: 2* Flammability: 3 Reactivity: 1 PPE: G

Disclaimer:

The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, we cannot give any guarantees regarding information from other sources, and expressly do not make warranties, nor assume any liability for its use.

Template: tmpl-cn-e3

Material Safety Data Sheet: CLEAR FLUSH BLOCK, MM

Supersedes Date 04/08/2011

Issuing Date 12/12/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name CLEAR FLUSH BLOCK, MM
Recommended use Water treatment chemical Detergent
Information on Manufacturer
CERTIFIED LABS, DIV. OF NCH CORP.
BOX 152170
IRVING, TEXAS 75015

Product Code 5824
Chemical nature Paraffin solid
Emergency Telephone Number
CHEMTREC® 800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview

CAUTION

May cause skin irritation
May cause eye irritation

Color Dark blue

Physical State Solid

Odor Cherry

Potential Health Effects

Principle Route of Exposure

Skin contact, Eye contact.

Primary Routes of Entry

None known

Acute Effects

Eyes

May cause eye irritation.

Skin

May cause slight irritation.

Inhalation

Low hazard for usual industrial or commercial handling.

Ingestion

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Toxicity

None known.

Target Organ Effects

Respiratory system, Testes, Skin, Eyes.

Aggravated Medical Conditions

Skin disorders

Potential Environmental Effects

See Section 12 for additional Ecological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
Sodium sulfate	7757-82-6
Sodium tetraborate	1330-43-4
Sodium dodecylbenzenesulfonate	25155-30-0

4. FIRST AID MEASURES

General advice

Avoid contact with skin, eyes and clothing. Avoid breathing dust.

Eye Contact

Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if irritation develops and persists.

Skin Contact

Wipe up with absorbent material (e.g. cloth, fleece). Wash off with soap and plenty of water. Get medical attention if irritation develops and persists.

Inhalation

No hazards which require special first aid measures.

Ingestion

Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth.

Notes to physician

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point Does not flash

Method

Not applicable

Autoignition Temperature No information available.

Flammability Limits in Air % Not applicable.

Upper No data available

Lower No data available

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards arising from the chemical

None known.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health 1

Flammability 1

Instability 0

HMIS

Health 1

Flammability 1

Instability 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Prevent further leakage or spillage if safe to do so.
Environmental Precautions	No special environmental precautions required.
Methods for Containment	Cover powder spill with plastic sheet or tarp to minimize spreading
Methods for Cleaning Up	Pick up and arrange disposal without creating dust.
Neutralizing Agent	Not applicable.

7. HANDLING AND STORAGE

Handling	Avoid contact with skin, eyes and clothing. Avoid breathing the dust.			
Storage	Keep in a dry, cool and well-ventilated place.			
Storage Temperature	Minimum	35 °F / 2 °C	Maximum	120 °F / 49 °C
Storage Conditions	Indoor	X	Outdoor	Heated Refrigerated

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
Sodium sulfate	No data available	No data available	No data available
Sodium tetraborate	TWA: 2 mg/m ³ STEL: 6 mg/m ³	No data available	TWA: 1 mg/m ³
Sodium dodecylbenzenesulfonate	No data available	No data available	No data available

Engineering Measures	Ensure adequate ventilation, especially in confined areas. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.
Personal Protective Equipment	
Eye/Face Protection	Safety glasses with side-shields.
Skin Protection	For prolonged or repeated contact, use protective gloves with appropriate chemical resistance.
Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
General Hygiene Considerations	Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid	Viscosity	Solid
Color	Dark blue	Odor	Cherry
Appearance	Opaque	pH	(as 10% solution) 8.3
Specific Gravity	1.2	Bulk Density (lb/cu ft)	10.01
Evaporation Rate	<1 (Butyl acetate=1)	Percent Volatile (Volume)	0
VOC Content (%)	0	VOC Content (g/L)	0
Vapor Pressure	0 mmHg @ 70°F	Vapor Density	Not applicable
Solubility	Completely soluble	Boiling Point/Range	Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability	Stable. Hazardous polymerization does not occur.
Conditions to Avoid	None known
Incompatible Products	Strong oxidizing agents, Bases.
Hazardous Decomposition Products	Carbon dioxide (CO ₂)
Possibility of Hazardous Reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Product Information No information available.

Component Information

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Sodium sulfate	> 10000 mg/kg (Rat)	no data available	no data available	no data available	no data available
Sodium tetraborate	= 2403 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	no data available	no data available	no data available
Sodium dodecylbenzenesulfonate	no data available	no data available	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Sodium sulfate	no data available	no data available	no data available	no data available	Respiratory system
Sodium tetraborate	no data available	no data available	no data available	no data available	eyes, respiratory system, skin, testes
Sodium dodecylbenzenesulfonate	no data available	no data available	no data available	no data available	no data available

Carcinogenicity

There are no known carcinogenic chemicals in this product.

Component	ACGIH	IARC	NTP	OSHA	Other
Sodium sulfate	not applicable	not applicable	not applicable	not applicable	not applicable
Sodium tetraborate	not applicable	not applicable	not applicable	not applicable	not applicable
Sodium dodecylbenzenesulfonate	not applicable	not applicable	not applicable	not applicable	not applicable

12. ECOLOGICAL INFORMATION**Product Information**

No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Sodium sulfate	no data available	LC50 13500 - 14500 mg/L Pimephales promelas 96 h LC50 > 6800 mg/L Pimephales promelas 96 h LC50 3040 - 4380 mg/L Lepomis macrochirus 96 h LC50 = 13500 mg/L Lepomis macrochirus 96 h	no data available	EC50= 630 mg/L 96 h EC50= 2564 mg/L 48 h	N/A
Sodium tetraborate	EC50 = 158 mg/L Desmodesmus subspicatus 96 h EC50 2.6 - 21.8 mg/L Pseudokirchneriella subcapitata 96 h	LC50 = 340 mg/L Limanda limanda 96 h	no data available	LC50 1085 - 1402 mg/L 48 h	N/A
Sodium dodecylbenzenesulfonate	no data available	LC50 = 10.8 mg/L Oncorhynchus mykiss 96 h	no data available	no data available	N/A

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

13. DISPOSAL CONSIDERATIONS**Product Disposal**

Dispose of in accordance with local regulations.

Container Disposal

Empty containers should be taken for local recycling, recovery, or waste disposal

14. TRANSPORT INFORMATION

DOT	Not regulated
TDG	Not regulated
ICAO	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated

15. REGULATORY INFORMATION**Inventories**

TSCA	Complies
DSL	Complies

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which

are subject to the reporting requirements of the Act and and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	No	No	No	No

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Sodium sulfate	Not applicable	Not applicable
Sodium tetraborate	Not applicable	Not applicable
Sodium dodecylbenzenesulfonate	1000 lb	Not applicable

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

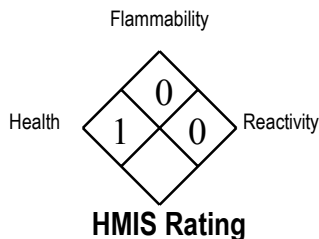
D2B Toxic materials



16. OTHER INFORMATION

Prepared By Adrienne McKee
 Supersedes Date 04/08/2011
 Issuing Date 12/12/2013
 Reason for Revision No information available.
 Glossary No information available.
 List of References. No information available.

CERTIFIED LABS, DIV. OF NCH CORP. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product. The information provided on this document is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.



MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label) ClearGlide™ Wire Pulling Lubricant	CATALOG NUMBER All "31" Series
MANUFACTURER'S NAME IDEAL INDUSTRIES, INC.	EMERGENCY TELEPHONE NO. (815) 895-5181
ADDRESS (Number, Street, City, State, Zip Code) Becker Place, Sycamore, IL 60178	
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) None	
CHEMICAL DESCRIPTION Polymer-based Mixture	FORMULA Proprietary

SECTION I - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)*	Listed as a carcinogen in NTP, IARC or OSHA 1910(z) (specify)
7732-18-5	<98	Water	No
6440-58-0	<1	DMDM Hydantoin	No
9038-95-3	<5	Oxirane, Methyl-, Polymer With Oxirane, Monobutyl Ether	No
9003-11-6	<1	Amino-Methyl-Propanol	No
25322-68-3	<1	Polyethylene Glycol	No
9003-01-4	<1	Carbomer Thickener	No
68037-64-9	<1	Silicone Glycol Blend	No

SECTION II - PHYSICAL DATA

BOILING POINT 212°F °C	SPECIFIC GRAVITY (H ₂ O=1) 1.09	PERCENT VOLATILE BY VOLUME (%) <98
SOLUBILITY IN WATER Infinite	pH = 7.0 - 8.0	PERCENT SOLID BY WEIGHT (%) ~5
APPEARANCE AND ODOR Clear, colorless gel, slight odor		IS MATERIAL: LIQUID SOLID GAS PASTE <u>GEL</u> POWDER

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT None	method used C.O.C	FLAMMABLE LIMITS	LEL None	UEL None
EXTINGUISHING MEDIA Use extinguishing media suitable for surrounding materials.				
SPECIAL FIRE FIGHTING PROCEDURES None				
UNUSUAL FIRE AND EXPLOSION HAZARDS None				

* None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R 1910.1200

SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE - Conditions to Avoid	
None normally expected. Upon prolonged contact, may cause temporary eye discomfort.	
THRESHOLD LIMIT VALUE	
N F	
PRIMARY ROUTES OF ENTRY Inhalation <input type="checkbox"/> Skin Contact <input checked="" type="checkbox"/> Other (specify)	
EMERGENCY FIRST AID PROCEDURES	
SKIN CONTACT:	Wash with soap and water for 15 minutes
EYE CONTACT:	Flush with water for 15 minutes Inhalation - Move to fresh air
INGESTION:	Administer water or milk Consult physician or local poison control center

SECTION V - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Avoid prolonged storage at temperatures exceeding 190 F.
INCOMPATIBILITY (materials to avoid)			
Avoid strong oxidizers and nitrites			
HAZARDOUS DECOMPOSITION PRODUCTS:			
Oxides of carbon, nitrogen and silicone			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	None

SECTION VI - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	
Wipe up, shovel or vacuum spilled material. Clean up spills immediately as they can be dangerously slippery.	
WASTE DISPOSAL METHOD	
Comply with Federal, state or local regulations for solid landfill	
CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)	
N/A	
RCRA HAZARDOUS WASTE NO. (40CFR 261.33)	
N/A	
VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)	
N/A	
<input type="checkbox"/> Theoretical _____ lb/gal	N/A
<input type="checkbox"/> Analytical _____ lb/gal	N/A

SECTION VII - PERSONAL PROTECTION INFORMATION


RESPIRATORY PROTECTION (specify type)			
None normally required			
VENTILATION	LOCAL EXHAUST (Specify Rate)	None	SPECIAL None
	MECHANICAL (General) (Specify Rate)	Recommended in closed areas.	OTHER None
PROTECTIVE GLOVES (specify type)		EYE PROTECTION (specify type)	
None normally required.		Safety glasses or splash goggles.	
OTHER PROTECTIVE EQUIPMENT			
Eye fountain in work area is recommended			

SECTION VIII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	
Store at temperatures between 40 - 180 F. Avoid freezing	
OTHER PRECAUTIONS	
Keep away from children, infants and pets	

SECTION IX - ADDITIONAL INFORMATION

N/A = Not Applicable, N.E. = None Established

THIS MATERIAL SAFETY DATA SHEET PREPARED BY:	
NAME James R. MacMurdo	SIGNATURE 
TITLE Director, Corporate Quality Assurance	
DATE 7/14/2003	



MATERIAL SAFETY DATA SHEET

MSDS Number: 1402E

Section 1

PRODUCT AND COMPANY IDENTIFICATION

Trade Name: OATEY PURPLE or CLEAR PRIMER NSF LISTED
Product Nos.: Purple - 30755, 30756, 30757, 30758, 30759, 30927 Clear - 30749, 30750, 30751, 30752, 30753, 30754, 31652, 31653
Product Use: Primer for PVC and CPVC Plastic Pipe
Formula: See section 2
Synonyms: Plastic Pipe Primer
Firm Name & Address: Oatey Company 4700 West 160th Street, Cleveland, Ohio 44135
www.oatey.com
Firm Phone No: (216) 267-7100
Emergency Phone Nos.: For Emergency First Aid call 1-877-740-5015. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1-703-527-3887.
Prepared by: Technical Department
Preparation Date: 11/01/2009

Section 2 HAZARDS IDENTIFICATION

Emergency Overview:

Purple or Clear

liquid with an ether-like odor. Extremely flammable liquid and vapor. Vapors may cause flash fire. May cause eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects. Swallowing may cause irritation, nausea, vomiting, diarrhea and kidney or liver disorders. Aspiration hazard. May be fatal if swallowed. Symptoms may be delayed.

Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS:	%wt/wt :	CAS NUMBER:	ACGIH TLV TWA:	OSHA PEL TWA	OTHER:
Tetrahydrofuran	15 - 30%	109-99-9	50 ppm(skin) 100 ppm STEL	200 ppm	25 ppm (Mfg)
Methyl Ethyl Ketone	25 - 40%	78-93-3	200 ppm 300 ppm	200 ppm	None
Acetone	25 - 40%	67-64-1	500 ppm 750 ppm STEL	1000 ppm	None
Cyclohexanone	15 - 30%	108-94-1	20 ppm(skin) 50 ppm STEL	50 ppm	None

OSHA Hazard Classification: Flammable, irritant, organ effects

Section 4 FIRST AID MEASURES

Skin: Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with hand cleaner or baby oil.
Eyes: If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

Inhalation: If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

Ingestion: **DO NOT INDUCE VOMITING.** Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

Section 5 FIRE FIGHTING MEASURES

Flashpoint / Method: 14 - 23 Degrees F. (-10 to -5 Degrees C) / CCCFP

Flammability: LEL = 1.8 % Volume, UEL = 11.8 % Volume

Extinguishing Media: Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.

Special Fire Fighting Procedure: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored

Unusual Fire And Explosion Hazards: Extremely flammable liquid. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

Hazardous Decomposition Products: Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

Section 6 ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Remove all sources of ignition and ventilate area. Stop leak if it can be done without risk. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with an inert absorbent such as sand, earth or other non-combusting material. Put absorbent material in covered, labeled metal containers. Prevent liquid from entering watercourses, sewers and natural waterways. Report releases to authorities as required. See Section 13 for disposal information.

Section 7 HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.

Storage: Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.

Other: "Empty" containers retain product residue and can be hazardous. Follow all MSDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.

Respiratory Protection: For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance

with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Skin Protection: Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

Eye Protection: Safety glasses with side shields or safety goggles.

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 151 Degrees F / 66 Degrees C
 Melting Point: Not applicable
 Vapor Pressure: 145 mmHg @ 20 Degrees C
 Vapor Density: (Air = 1) 2.5
 Volatile Components: 99.96%
 Solubility In Water: Negligible
 pH: Not applicable
 Specific Gravity: 0.84 +/- 0.02 @ 20 Degrees C
 Evaporation Rate: (BUAC = 1) = 5.5 - 8.0
 Appearance: Purple or Clear Liquid
 Odor: Ether-Like
 Will Dissolve In: Tetrahydrofuran
 Material Is: Liquid

Section 10 STABILITY AND REACTIVITY

Stability: Stable.
 Conditions To Avoid: Avoid heat, sparks, flames and other sources of ignition.
 Hazardous Decomposition Products: Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.
 Incompatibility/ Materials To Avoid: Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. May attack plastic, resins and rubber.
 Hazardous Polymerization: Will not occur.

Section 11 TOXICOLOGICAL INFORMATION

Inhalation: Vapors or mists may cause mucous membrane and respiratory irritation, coughing, headache, dizziness, dullness, nausea, shortness of breath and vomiting. High concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

Skin: May cause irritation with redness, itching and pain. Methyl ethyl ketone and cyclohexanone may be absorbed through the skin causing effects similar to those listed under inhalation.

Eye: Vapors may cause irritation. Direct contact may cause irritation with redness, stinging and tearing of the eyes. May cause eye damage.

Ingestion: Swallowing may cause abdominal pain, nausea, vomiting and diarrhea. Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

Chronic Toxicity: Prolonged or repeated overexposure cause dermatitis and damage to the kidney, liver, lungs and central nervous system.

Toxicity Data:

Acetone:	Oral rat LD50: 5,800 mg/kg
	Inhalation rat LC50: 50,100 mg/m3/8 hours
Cyclohexanone:	Oral rat LD50: 1,620 mg/kg
	Inhalation rat LC50: 8,000 ppm/4 hours
	Skin rabbit LD50: 1 mL/kg

	Tetrahydrofuran:	Oral rat LD50: 1,650 mg/kg Inhalation rat LC50: 21,000 ppm/3 hours
	Methyl Ethyl Ketone:	Oral rat LD50: 2,737 mg/kg Inhalation rat LC50: 23,500 mg/m3/8 hours Skin rabbit LD50: 6,480 mg/kg
Sensitization:	None of the components are known to cause sensitization.	
Carcinogenicity:	None of the components are listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA. The National Toxicology Program has reported that exposure of mice and rats to tetrahydrofuran (THF) vapor levels up to 1800 ppm 6 hr/day, 5 days/week for their lifetime caused an increased incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health is unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF. ACGIH has classified cyclohexanone (CYH) and tetrahydrofuran as "A3," Confirmed Animal Carcinogens with Unknown Relevance to Humans.	
Mutagenicity:	Cyclohexanone has been positive in bacterial and mammalian assays. Acetone, methyl ethyl ketone and tetrahydrofuran are generally thought not to be mutagenic.	
Reproductive Toxicity:	Methyl ethyl ketone and cyclohexanone have been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran has been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.	
Medical Conditions Aggravated By Exposure:	Persons with pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.	

Section 12 ECOLOGICAL INFORMATION

This product is not expected to be toxic to aquatic organisms.
Cyclohexanone: 96 hour LC50 values for fish is over 100 mg/l.
Tetrahydrofuran: 96 hour LC50 fathead minnow: 2160 mg/L.
Acetone: 96 hour LC50 for fish is greater than 100 mg/L.
Methyl Ethyl Ketone: 96 hour LC50 for fish is greater than 100 mg/L.

VOC Information: This product emits VOC's (volatile organic compounds) in its use. Make sure that use of this product complies with local VOC emission regulations, where they exist.

VOC Level: Maximum 550 g/L per SCAQMD Test Method 316A.

Section 13 DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with current local, state and federal regulations.

RCRA Hazardous Waste Number: U002, U057, U159, U213

EPA Hazardous Waste ID Number: D001, D035, F003, F0005

EPA Hazard Waste Number: Ignitable Waste. Toxic Waste (Methyl Ethyl Ketone content)

Section 14 TRANSPORT INFORMATION

DOT	Less than 1 Liter (0.3 gal)	Greater than 1 Liter (0.3 gal)
UN/NA Number:	None	UN1993
Proper Shipping Name:	Consumer Commodity	Flammable Liquid, NOS (Methyl Ethyl Ketone, Acetone)
Hazard Class:	ORM-D	3

Packing Group:	None	PGII
Hazard Labels:	None	Flammable Liquid
IMDG		
UN Number:	UN1993	UN1993
Proper Shipping Name:	Flammable Liquid, NOS (Limited Quantity)	Flammable Liquid, NOS (Methyl Ethyl Ketone, Acetone)
Hazard Class:	3	3
Packing Group:	II	II
Label:	None (Limited Quantities are expected from labeling)	Class 3 (Flammable Liquid)
Flashpoint (deg C)	-10 to -5 Degrees C	-10 to -5 Degrees C

2008 North American Emergency Response Guidebook Number: 127

Section 15 REGULATORY INFORMATION

Hazard Category for Acute Health, Chronic Health, Flammable
Section 311/312:

Section 302 Extremely Hazardous Substances (TPQ):	This product does not contain chemicals regulated under SARA Section 302.
Section 313 Toxic Chemicals:	This product does not contain chemicals subject to SARA Title III Section 313 Reporting requirements.
CERCLA 103 Reportable Quantity:	Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Tetrahydrofuran (30% maximum) of 1,000 lbs, is 3,333 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
California Proposition 65:	This product does not contain any chemicals subject to California Proposition 65 regulations.
TSCA Inventory Canadian WHIMS Classification:	All of the components of this product are listed on the TSCA inventory. Class B, Division 2; Class D, Division 2, Subdivision B; Class D, Division 2, Subdivision A. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Section 16 OTHER INFORMATION

NFPA and HMIS:
NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None
HMIS Hazard Signal: Health: 2* Flammability: 3 Reactivity: 1 PPE: G

Disclaimer:

The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, we cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.

Template: tmpl-us-el



SAFETY DATA SHEET

Issuing date 01-Sep-2011

Revision Date 24-May-2014

Version 2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name Swisher Clear Sanitizer

Other means of identification

Product Code 40022-1

Document 40022-1/ 40022-2.5/ 40025-5/ 40022-15/ 40022-55

Recommended use of the chemical and restrictions on use

Recommended use No Rinse Sanitizer .

Details of the supplier of the safety data sheet

Distributor

Swisher Hygiene Inc.
4725 Piedmont Row Drive
Suite 400
Charlotte, NC 28210

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC: 1-800-424-9300 (NORTH AMERICA)
1-703-527-3887 (INTERNATIONAL)

Company Phone Number 800-444-4138

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

Label elements

Emergency Overview

Warning

Hazard Statements

Causes skin irritation
Causes serious eye irritation

**Appearance** Thin Liquid**Physical state** Liquid**Odor** Neutral**Precautionary Statements - Prevention**

- Wash face, hands and any exposed skin thoroughly after handling
- Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

- Specific treatment (see instructions on this label)
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If eye irritation persists: Get medical advice/attention
- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation occurs: Get medical advice/attention
- Take off contaminated clothing and wash before reuse
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage

Store in a well-ventilated place

Precautionary Statements - Disposal

Dispose of contents/container to approved disposal facility

Hazards not otherwise classified (HNOC)**Other information**

- May be harmful if swallowed

Unknown Acute Toxicity

5.03% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical Name	CAS-No	Weight-%	Trade Secret
Didecyldimethylammonium chloride	7173-51-5	1.35	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures for different exposure routes**General advice**

Show this safety data sheet to the doctor in attendance. Call a poison control center or doctor for treatment advice. Have the product containers or label with you when calling a poison control center or doctor, or going for treatment.

Eye contact

Hold eye open & rinse with water for 15-20 min. Remove contact lenses, if present, after 5 min, then continue rinsing eyes. Call poison control center or doctor for advice.

Skin contact	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call poison control center or doctor for treatment advice.
Inhalation	If symptoms are experienced, move victim to fresh air. If person is not breathing call 911 or an ambulance, then give artificial respiration. Call a poison control center or doctor for further treatment advice.
Ingestion	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. .
Protection of First-aiders	Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms/effects, acute and delayed

Main Symptoms No information available.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use water spray, fog, Carbon dioxide (CO₂), foam or dry chemical.

Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

Use water spray to cool adjacent fire exposed containers. May generate hydrogen gas in contact with some metals. Product will not burn but may splatter if temperature exceeds boiling point.

Hazardous Combustion Products If burned, normal combustion products: Carbon dioxide, Carbon monoxide; Nitrogen oxides.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills.

Methods for cleaning up Small spills may be mopped up, flushed away with water or absorbed on some inert absorbent material and incinerated. Large spills should be contained, the material then moved into containers and disposed of by approved methods for hazardous wastes.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling KEEP OUT OF REACH OF CHILDREN. Do not eat, drink or smoke when using this product. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Wash thoroughly after work using soap and water.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Non-refillable container. Open dumping is prohibited. Store only in original container. Do not reuse empty container. If a leaky container must be contained within another, mark the outer container to identify the contents. Store this product away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Keep this product under locked storage sufficient to make it inaccessible to children or persons unfamiliar with its proper use.

Incompatible products Strong oxidizing agents. Strong reducing agents. Anionic detergents will deactivate disinfectants.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines Review Section 3 & 4 for Exposure Guidelines.
Appropriate engineering controls

Engineering Measures Ensure adequate ventilation and that running water is available for washing eyes and skin
Individual protection measures, such as personal protective equipment

Eye/Face Protection Splash-proof chemical goggles or face shield.

Skin and body protection Wear appropriate chemical resistant clothing and chemical resistant gloves.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures Do not eat, drink or smoke when using this product. Practice good personal hygiene. Wash after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Physical state	Liquid	Odor	Neutral
Appearance	Thin Liquid	Odor Threshold	No information available
Color	Clear Liquid Colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Methods</u>
pH	6-7	
Melting/freezing point	No information available	
Boiling point/boiling range	No information available 212 °F	
Flash Point	No information available	
Evaporation rate	1.0	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		

Upper flammability limit	No information available
Lower flammability limit	No information available
Vapor pressure	17
Vapor density	0.62
Specific Gravity	0.988
Water solubility	Completely Soluble
Solubility in other solvents	No information available
Partition coefficient: n-octanol/water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	Not explosive
Oxidizing Properties	Not an oxidizer

Other information

Softening point	No information available
Molecular Weight	No information available
VOC Content(%)	No information available
Density VALUE	No information available
Bulk Density VALUE	No information available

10. STABILITY AND REACTIVITY

Chemical stability

Stable, protect from freezing.

Possibility of hazardous reactions

None under normal processing.

Conditions to Avoid

Extremes of temperature and direct sunlight.

Incompatible Materials

Strong oxidizing agents. Strong reducing agents. Anionic detergents will deactivate disinfectants.

Hazardous Decomposition Products

If burned, normal combustion products: Carbon dioxide, Carbon monoxide; Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Harmful by inhalation, in contact with skin and if swallowed.
Inhalation	Irritating to respiratory system.
Eye contact	Corrosive to the eyes and may cause severe damage including blindness.
Skin contact	Contact causes severe skin irritation and possible burns.
Ingestion	Severe irritation of the gastrointestinal tract, causing vomiting, nausea and burns.

Chemical Name	Oral LD50	Dermal LD50	LC50 Inhalation
Didecyldimethylammonium chloride 7173-51-5	= 84 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available.
Mutagenic effects	No information available.
Carcinogenicity	There are no known carcinogenic chemicals in this product.
Reproductive toxicity	No information available.
Developmental Toxicity	No information available.
Teratogenicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Chronic toxicity	No known effect based on information supplied. This product contains no substances suspected of causing genetic defects, birth defects, developmental toxicity, or reproductive toxicity.
Aspiration hazard	No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity	5.03% of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document	
ATEmix (oral)	4326 mg/kg

12. ECOLOGICAL INFORMATION**Ecotoxicity**

9.38% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability

No information available.

Bioaccumulation

Not likely to bioaccumulate.

Mobility

Will likely be mobile in the environment due to its water solubility.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS**Waste treatment**

Waste Disposal Methods	Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance on proper disposal of waste product.
Contaminated packaging	Non-refillable container. Empty containers should be triple rinsed, then offered for recycling or reconditioning; or puncture and dispose of in a sanitary landfill. .

14. TRANSPORT INFORMATION

DOT	Not regulated
Proper shipping name	Not regulated

15. REGULATORY INFORMATION**International Inventories**

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	-
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	-

Legend:

TSCA - All components of this product are listed or are exempt or excluded from listing on the United States Toxic Substances Control Act Section 8(b) Inventory.

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations**SARA 313**

SARA TITLE III (EPCRA) NOTIFICATION: Does not contain chemicals subject to the reporting requirements of Section 302, 304, or 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) NOTIFICATION: SODIUM HYDROXIDE For more information, consult 40 CFR parts 302, 355, 370, 372, and 40 CFR part 68.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	no
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label

CAUTION. Causes moderate eye irritation.

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards 3	Flammability 0	Instability 0	Physical and chemical hazards -
<u>HMIS</u>	Health hazard 3	Flammability 0	Physical Hazards 0	Personal protection C

Prepared By

Swisher Hygiene Inc.
4725 Piedmont Row Drive
Suite 400
Charlotte, NC 28210

Issuing date

01-Sep-2011

Revision Date

24-May-2014

Revision Note

1

Disclaimer



The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

	<p>Industrias AIEn Research & Development Safety Data Sheet</p>	
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SAP Code	SDS FP-6050002
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SECTION 1 – IDENTIFICATION		
Manufacturer ALEN DEL NORTE S.A. DE C.V.	Mexico emergency telephone 01 800 834 33 00	Fax +52 (81) 81221099
Address	Emergency telephone number (US)	
Blvd. Díaz Ordaz No. 1000, Los Treviño, Santa Catarina, N.L. C.P. 66150, México	CHEMTRAC	
	For domestic shipments	800 424 9300
	For shipments outside US	703 527 3887
Product Name CLOALEN REGULAR BLEACH		
Chemical Name Sodium hypochlorite solution	CAS Number 7681-52-9	
Synonyms/Trade Names Carrel-Drakin solution		
Application Household Bleach	Restrictions on use This product is not intended for industrial uses or as a sanitizing agent.	

SECTION 2 – HAZARDS IDENTIFICATION	
Classification: Skin Corrosion Cat. 1B Eye Damage Cat. 1 Aquatic Acute Toxicity Cat. 1 This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).	
Signal word:	Danger
Hazard Statements:	H314 Causes severe skin burns and eye damage. H400 Very toxic to aquatic life.
Pictograms: <div style="display: flex; justify-content: space-around; align-items: center;">   </div>	

Precautionary Statements	
❖ Prevention: Use with adequate ventilation. Avoid contact with skin, eyes and clothing. Wear protective gloves, protective clothing, face and eye protection. Wash hands thoroughly after handling. Do not breathe vapors. Avoid release to the environment.	❖ Storage: Store locked up. Keep out of reach of children. Keep containers closed when not in use. Store in a cool, dry area. Keep from freezing.
❖ Response: IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. If wearing contact lenses, remove after 5 minutes and continue rinsing for 10-15 minutes. IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. IF SWALLOWED: Get prompt medical attention. Give a glassful of water. Do not induce vomiting. IF INHALED: Remove to fresh air. If not breathing, give artificial respiration.	❖ Disposal: Dispose in accordance with all applicable local, state and federal regulations.
Hazard not otherwise classified: Contact with acids liberates toxic gas. Repeated or prolonged contact may cause skin sensitization.	Unknown Toxicity: Not applicable, very toxic to aquatic life.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS		
Hazardous Ingredients Chemical/Common Name	Composition Range	CAS Number
Hypochlorous acid sodium salt / Sodium hypochlorite	4.0 – 6.0	7681-52-9
Sodium hydroxide / Caustic soda	0.05 – 0.10	1310-73-2

SECTION 4 – FIRST-AID MEASURES	
For treatment advice, call a Poison Control Center or a doctor.	
Ingestion	<ul style="list-style-type: none"> ▪ If only small amounts have been ingested give a glass of water or milk to drink. ▪ For large ingestions consider nasogastric aspiration of the stomach contents. ▪ Apply other supportive measures as indicated by the patient's clinical condition. ▪ Get immediate medical attention.
Inhalation	<ul style="list-style-type: none"> ▪ Remove patient from exposure. ▪ Ensure a clear airway and adequate ventilation. ▪ Give oxygen to symptomatic patients. ▪ Apply other supportive measures as indicated by the patient's clinical condition. ▪ Get medical attention.
Skin	<ul style="list-style-type: none"> ▪ Remove patient from exposure. ▪ Remove all soiled clothing. ▪ Wash the skin with tepid water until it no longer feels soapy. ▪ Apply a soothing cream if there is any residual skin irritation.
Eyes	<ul style="list-style-type: none"> ▪ Remove patient from exposure. ▪ Remove contact lenses if necessary and immediately irrigate the affected eye thoroughly with water or 0.9% saline for at least 10-15 minutes. ▪ Patients with corneal damage or those whose symptoms do not resolve rapidly should seek medical advice. ▪ Get medical attention.
Most important symptoms and effects: Burning of eyes and/or skin	Indication of any immediate medical attention and special treatment needed: Treat symptomatically. Can cause corneal burns. Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5 – FIRE-FIGHTING MEASURES

Flash Point (°C) NA	Test method NA
Flammability Not flammable	Explosive limits in air No explosion hazard.
Extinguishing media: Water spray <input checked="" type="checkbox"/> CO ₂ <input checked="" type="checkbox"/> Foam <input checked="" type="checkbox"/> Other <input type="checkbox"/>	
Unusual fire and explosion hazards NA	
Special protective equipment Full breathing apparatus and fire-fighting equipment. Neoprene gloves, goggles, boots.	
Special firefighting procedures NA	
Conditions to avoid Avoid contact with acids, ammonia. Acts as oxidizer with combustible material.	
Hazardous combustion products Carbon dioxide and carbon monoxide; chlorine gas may be released	

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Protective equipment:				
Gloves <input checked="" type="checkbox"/> Neoprene	Goggles <input checked="" type="checkbox"/>	Boots <input checked="" type="checkbox"/>	Coat <input checked="" type="checkbox"/> Resistant	Other <input checked="" type="checkbox"/> Liquid-tight chemical protective clothing in combination with self-contained open circuit positive pressure compressed air breathing apparatus
Emergency Procedures in case of release or spillage: Large spills: Wear protective equipment, remove sources of ignition, sweep up the material, use absorbent material like sand or saw dust, collect in closed containers, wash area with water because the surface may be slippery. Small spills: Wash area with plenty of water and dispose the material in accordance with all local, state and federal regulations. Avoid contact with acids, ammonia. Avoid contact with skin, eyes and clothing. Environmental precautions: Do not allow product to enter lakes, rivers or streams. The product is toxic to fish and aquatic invertebrates.				
Methods and Materials for Containment and Cleaning up: Use absorbent material and collect in closed containers, wash with plenty water, and conduct to sanitary treatment facility				

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling: Use with adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid contact with acids, ammonia or metals. Do not eat, drink, or smoke when using the product.

Recommendations on the conditions for safe storage: Store locked up. Keep out of reach of children. Keep containers closed when not in use. Store in a cool, dry area. Keep from freezing.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits:

Hazardous Ingredients Chemical/Common Name	CAS Number	ACGIH TLV	OSHA PEL/NIOSH REL
Hypochlorous acid sodium salt / Sodium hypochlorite	7681-52-9	TLV: Not estab.	ND
Sodium hydroxide / Caustic soda	1310-73-2	TLV-ceiling: 2 mg/m ³	PEL-TWA: 2 mg/m ³ REL-ceiling: 2 mg/m ³

Appropriate engineering controls:

Eye-washers

Ventilation requirements

General ventilation ☐ Local ventilation ☒ Unnecessary in normal cond. ☐

Work practices: Handle according to good industrial hygiene and safety practices.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid		
Color and odor:	Light yellow and characteristic chlorine odor		
Boiling point (°C):	ND	Melting or freezing point:	NA
Flash point (°C):	NA	Decomposition temperature:	ND
Fire point (°C):	NA	Auto ignition temperature (°C):	NA
Density (g/ml):	1.075 – 1.104	Vapor density:	ND
Molecular weight:	74.45	Volatility:	NA
Percent volatile 100°C:	ND	Vapor pressure (mmHg @ 20°C):	ND
Lower explosion limit (%):	NA	Upper explosion limit (%):	NA
pH:	12.1 – 13.8	Viscosity (cPs):	NA
Solubility in water:	Complete	Solubility in others:	ND
Partition coefficient: n-octanol / water	ND	Odor threshold:	ND

SECTION 10 – STABILITY AND REACTIVITY

Reactivity:

Reacts in contact with acidic products, ammonia or vinegar and may release chlorine gas.

Chemical stability:

 Stable ☒

 Unstable ☐

Under recommended storage conditions

Possibility of hazardous reactions:

It may react exothermically in contact with acids to generate chlorine gas.

Conditions to avoid:

It may become unstable at high temperatures (above 45°C).

Incompatible materials:

 None ☐
known

 Water ☐

 Acids ☒

 Alkalies ☐

 Oxide ☒

 Other ☒

Fe, Cu, Ni, Bronze

 Metals, ammonia,
urea

Hazardous decomposition products:

Chlorine gas. When heated to decomposition it emits toxic fumes of Na₂O and hydrogen chloride.

Hazardous polymerization:

 Will not occur ☒

 May occur ☐

SECTION 11 – TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure

Contact via	Acute	Chronic
Ingestion	May cause mild to moderate irritation to intestinal mucous. <u>Ingestion of small amounts</u> (up to 200ml in adults; up to 50ml in children) may cause burns to the mouth, throat and stomach. <u>Ingestion of large amounts</u> (about 300ml in adults or 100ml in children) may cause corrosive esophagitis, abdominal pain, diarrhea and, in some cases, metabolic acidosis.	May cause severe burns.
Inhalation	Irritation of eyes and nose with sore throat, cough, chest tightness, head-ache, ataxia and confusion. Dyspnoea and stridor due to laryngeal oedema may follow. Pulmonary oedema with increasing breathlessness, wheeze, hypoxia and cyanosis may take up to 36 hours to develop.	NA
Skin	May cause irritation or cause burning pain.	May cause severe burns.
Eyes	May cause, irritation, pain, blepharospasm, lacrimation, conjunctivitis, palpebral oedema and photophobia.	May cause severe eye damage, like corneal burns.

Symptoms:

Burning of eyes and/or skin, sore throat, cough or esophagitis.

Chronic effects from short and long-term exposure:Carcinogenic ☐Mutagenic ☐Theratogenic ☐Incuded in ☐

NOM 010

STPS

Included in ☐

other references

National Toxicology Program (NTP) Report on Carcinogens: Not listed.**International Agency for Research on Cancer (IARC) Monographs:** Group 3 – Not classifiable as to Carcinogenicity to Humans.**OSHA:** Not listed.**Complementary information**

Chemical Name	LD50 Oral	Animal Species
Sodium hypochlorite	5,800 mg/kg	Mouse

SECTION 12 – ECOLOGICAL INFORMATION**Ecotoxicity:** Very toxic to aquatic life. Toxic to fish, shrimp, oysters and other aquatic invertebrates. Do not allow product to enter lakes, rivers or streams.**Persistence and degradation in environment:** Information not available.**Test of bioaccumulation:** Information not available.**Other adverse effects:** Information not available.**SECTION 13 – DISPOSAL CONSIDERATIONS****Waste disposal methods:**

Dispose in accordance with all applicable local, state and federal regulations.

Contaminated packaging: Do not reuse empty containers.**SECTION 14 – TRANSPORT INFORMATION**

Regulation	Proper Shipping Name	Identification number UN/NA	Hazard Classification	Packing Group
Land Transportation DOT (USA)	Hypochlorite solutions	UN1791	Class 8	III*
Land Transportation TDG (Canada)	Hypochlorite solutions	UN1791	Class 8	III
Land Transportation ADR (Europe)	Hypochlorite solutions	UN1791	Class 8	III
Air Transportation IATA (International)	Hypochlorite solutions	UN1791	Class 8	III
Water Transportation IMDG (Chapter 2.9 IMDG code) (International)	Hypochlorite solutions Marine pollutant	UN1791	Class 8	III**

* **Limited Quantity:** As provided in 49CFR 173.154, this product is excepted from packaging and labeling requirements when transported by land in single packaging with net quantities of 5.0 L (1.3 gallons) or less.

** As provided in 49CFR 172.322, there no additional packaging or marking requirements for single packaging with net quantities of 5.0 L (1.3 gallons) or less.

SECTION 15 – REGULATORY INFORMATION

RCRA (40 CFR 261, Subpart D):	New Jersey Right to Know Hazardous Substance List:
If this product becomes a waste, it meets the criteria of a hazardous waste and would have the following EPA hazardous waste number: D002. As a hazardous liquid waste, it must be disposed of in accordance with local state and federal regulations in a permitted hazardous waste treatment facility	This product contains the following components subject to reporting requirements: sodium hypochlorite and sodium hydroxide.
Clean Water Act:	Pennsylvania Hazardous Substance List:
Contains sodium hypochlorite (RQ = 100 lb/45.4 kg) and sodium hydroxide (RQ = 1000 lb/454 kg) which are regulated under Sections 301, 307 and 311.	This product contains the following components subject to reporting requirements: sodium hypochlorite and sodium hydroxide.
Clean Air Act:	Massachusetts Substance List:
Not applicable.	This product contains the following components subject to reporting requirements: sodium hypochlorite and sodium hydroxide.
SARA Sections 301-304 (Threshold Planning Quantity - TPQ) 40 CFR 355:	State Of Illinois Substance List:
Not applicable.	This product contains the following components subject to reporting requirements: sodium hypochlorite and sodium hydroxide.
Section 313 (Toxic Chemical Release Reporting) 40 CFR 372:	Michigan Critical Materials Register:
The following chemicals must be reported under SARA 313: Sodium hypochlorite.	Not applicable.
CERCLA Section 102 (Reportable Quantity - RQ):	Canada (WHMIS) - listed material:
Not applicable.	This product contains the following components subject to reporting requirements: sodium hypochlorite and sodium hydroxide.
California Proposition 65 Carcinogens and reproductive toxins:	TSCA Section 8(b) Inventory Status:
Not applicable.	All ingredients listed in this product are listed in the TSCA Inventory or are not required to be listed in the TSCA Inventory.

SECTION 16 – OTHER INFORMATION

HMIS Classification (USA)		HMIS Letter	Required Equipment
Health	3	A	Safety glasses.
Flammability	0	B	Safety glasses, gloves.
Physical Hazard	0	C	Safety glasses, gloves, protective apron.
Personal Protection	B	D	Face shield, gloves, protective apron.
		E	Safety glasses, gloves, dust respirator.

NFPA Aerosol Level:		F	Safety glasses, gloves, protective apron, dust respirator.
NA		G	Safety glasses, gloves, vapor respirator.
NA: Not Applicable TLV: Threshold Limit Values ND: Not Determined		H	Splash glasses, gloves, protective apron, vapor respirator.
		I	Safety glasses, gloves, dust respirator, vapor respirator.
		J	Safety glasses, gloves, protective apron, dust respirator, vapor respirator.
		K	Air line mask or hood, gloves, full suit, boots.

Creation date:	Last revision date:	Next revision date:	Created by:
03/Jan/2008	20/Abr/2015	20/Abr/2017	Gerardo Urbina Pacheco

DISCLAIMER
<p>The submission of this MSDS may be required by law, but this is not an assertion that the substance is not hazardous when it is not used in accordance with proper safety practices and normal handling procedures. Data supplied is for use only in connection with occupational safety and health. The information contained herein has been compiled from sources considered by Industrias AIEn to be dependable and is accurate to the best of the Company's knowledge. The information relates to the specific material designated herein, and does not relate to the use in combination with any other material or any other process. Industrias AIEn assumed no responsibility for injury to the recipient or third persons, for any damage to any property from misuse of the controlled product.</p>



SAFETY DATA SHEET

Issuing Date January 5, 2015

Revision Date New

Revision Number 0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Clorox Commercial Solutions® Clorox® Disinfecting Wipes - Fresh Scent

Other means of identification

EPA Registration Number 67619-9

Recommended use of the chemical and restrictions on use

Recommended use Moistened disinfecting wipes

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address

Clorox Professional Products Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

Emergency telephone number

Emergency Phone Numbers

For Medical Emergencies call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS Label elements, including precautionary statements

Emergency Overview

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Appearance Clear, colorless liquid
absorbed into white, non-woven wipes

Physical State Thin liquid absorbed into
non-woven wipes

Odor Fruity, apple, floral

Precautionary Statements - Prevention

None

Precautionary Statements - Response

None

Precautionary Statements - Storage

None

Precautionary Statements - Disposal

None

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity

21.5% of the mixture consists of ingredient(s) of unknown toxicity

Other information

No information available

Interactions with Other Chemicals

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight %	Trade Secret
Ethylene glycol monohexyl ether	112-25-4	1 - 5	*
n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chloride	85409-23-0	0.1 - 0.2	*
n-Alkyl (5% C12, 60% C14, 30% C16, 5% C18) dimethyl benzyl ammonium chloride	53516-76-0	0.1 - 0.2	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General Advice	Show this safety data sheet to the doctor in attendance.
Eye Contact	Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. If present, remove contact lenses after the first 5 minutes of rinsing, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
Skin Contact	Rinse skin with plenty of water. If irritation persists, call a doctor.
Inhalation	Move to fresh air. If breathing problems develop, call a doctor.
Ingestion	Drink a glassful of water. Call a doctor or poison control center.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects	Liquid may cause eye irritation.
--	----------------------------------

Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

Hazardous Combustion Products

Oxides of carbon.

Explosion Data

Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge No.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin, and clothing. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool, and well-ventilated place.

Incompatible Products None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethylene glycol monohexyl ether 112-25-4	None	None	None
n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chloride 85409-23-0	None	None	None
n-Alkyl (5% C12, 60% C14, 30% C16, 5% C18) dimethyl benzyl ammonium chloride 53516-76-0	None	None	None

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Measures	Showers
	Eyewash stations
	Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection	No special protective equipment required.
Skin and Body Protection	No special protective equipment required.
Respiratory Protection	No protective equipment is needed under normal use conditions. If irritation is experienced, ventilation and evacuation may be required.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Physical and Chemical Properties**

Physical State	Thin liquid absorbed into non-woven wipes		
Appearance	Clear liquid absorbed into non-woven wipes	Odor	Fruity, apple, floral
Color	Colorless liquid - white non-woven wipes	Odor Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks/ Method</u>
pH	6 - 9 (liquid)	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	~1.0 (liquid)	None known
Water Solubility	Complete (liquid)	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

None known.

Hazardous Decomposition Products

None known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Exposure to vapor or mist may irritate respiratory tract.
Eye Contact	Liquid may cause irritation.
Skin Contact	Liquid may cause slight irritation.
Ingestion	Ingestion of liquid may cause slight irritation to mucous membranes and gastrointestinal tract.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene glycol monohexyl ether 112-25-4	739 mg/kg (Rat)	721 mg/kg (Rabbit)	>0.5 mg/L (Rat, 4 h)

Information on toxicological effects

Symptoms Liquid may cause redness and tearing of eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available.
Mutagenic Effects	No information available.
Carcinogenicity	None of the ingredients in this product are on the IARC, OSHA, or NTP carcinogen lists.
Reproductive Toxicity	No information available.

STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Chronic Toxicity	No known effect based on information supplied.
Target Organ Effects	Respiratory system, eyes, skin, gastrointestinal tract (GI).
Aspiration Hazard	No information available.

Numerical measures of toxicity - Product Information**ATEmix (oral)**

40.1 g/kg

ATEmix (dermal)

59.8 g/kg

12. ECOLOGICAL INFORMATION**Ecotoxicity**

No information available.

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Dispose of in accordance with all applicable federal, state, and local regulations.

Contaminated Packaging

Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated.
<u>TDG</u>	Not regulated.
<u>ICAO</u>	Not regulated.
<u>IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated

15. REGULATORY INFORMATION**Chemical Inventories**

TSCA All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.

DSL/NDSL All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical which is subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Name	CAS No.	Weight %	Threshold Value (%)
Ethylene glycol monohexyl ether	112-25-4	1 - 5	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances that are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This product does not contain any substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling. Wear gloves for prolonged or frequent use.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Ethylene glycol monohexyl ether 112-25-4			X	X	X
Isopropyl alcohol 67-63-0	X	X	X	X	

International Regulations**Canada****WHMIS Hazard Class**

D2B Toxic materials

**16. OTHER INFORMATION**

NFPA Health Hazard 1 Flammability 0 Instability 0 Physical and Chemical Hazards -

HMIS Health Hazard 1 Flammability 0 Physical Hazard 0 Personal Protection A

Prepared By

Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Preparation/Revision Date

January 5, 2015

Revision Note

New

Reference

1102043/174189.002

General Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

Issuing Date January 5, 2015

Revision Date June 12, 2015

Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Clorox Commercial Solutions® Clorox® Germicidal Bleach₁

Other means of identification

EPA Registration Number 5813-100-67619

Recommended use of the chemical and restrictions on use

Recommended use Institutional hard surface disinfecting and sanitizing bleach

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address

Clorox Professional Products Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

Emergency telephone number


Emergency Phone Numbers For Medical Emergencies, call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

GHS Label elements, including precautionary statements**Emergency Overview**

Signal word		Danger	
Hazard Statements			
Causes severe skin burns and eye damage			
Causes serious eye damage			
			
Appearance	Clear, pale yellow	Physical State	Thin liquid
		Odor	Bleach

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling.

Wear protective gloves, protective clothing, face protection, and eye protection such as safety glasses.

Precautionary Statements - Response

Immediately call a poison center or doctor.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

Wash contaminated clothing before reuse.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

Specific treatment (see supplemental first aid instructions on this label).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents in accordance with all applicable federal, state, and local regulations.

Hazards not otherwise classified (HNOC)

Although not expected, heart conditions or chronic respiratory problems such as asthma, chronic bronchitis, or obstructive lung disease may be aggravated by exposure to high concentrations of vapor or mist.

Product contains a strong oxidizer. Always flush drains before and after use.

Unknown Toxicity

Not applicable.

Other information

Very toxic to aquatic life with long lasting effects.

Interactions with Other Chemicals

Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Sodium hypochlorite	7681-52-9	5 - 10	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**First aid measures****General Advice**

Call a poison control center or doctor immediately for treatment advice. Show this safety data sheet to the doctor in attendance.

Eye Contact

Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin Contact

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation

Move to fresh air. If breathing is affected, call a doctor.

Ingestion

Have person sip a glassful of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice.

Protection of First-aiders

Avoid contact with skin, eyes, and clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed**Most Important Symptoms and Effects**

Burning of eyes and skin.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

This product causes burns to eyes, skin, and mucous membranes. Thermal decomposition can release sodium chlorate and irritating gases and vapors.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions

Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Use personal protective equipment as required. For spills of multiple products, responders should evaluate the MSDSs of the products for incompatibility with sodium hypochlorite. Breathing protection should be worn in enclosed and/or poorly-ventilated areas until hazard assessment is complete.

Other Information

Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams. See Section 12 for ecological information.

Methods and material for containment and cleaning up

Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up

Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Store away from children. Reclose cap tightly after each use. Store this product upright in a cool, dry area, away from direct sunlight and heat to avoid deterioration. Do not contaminate food or feed by storage of this product.

Incompatible Products Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hypochlorite 7681-52-9	None	None	None

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection If splashes are likely to occur: Wear safety glasses with side shields (or goggles) or face shield.

Skin and Body Protection Wear rubber or neoprene gloves and protective clothing such as long-sleeved shirt.

Respiratory Protection If irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods. Remove and wash contaminated clothing before re-use. Do not eat, drink, or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Thin liquid	Odor	Bleach
Appearance	Clear	Odor Threshold	No information available
Color	Pale yellow		

<u>Property</u>	<u>Values</u>	<u>Remarks/ Method</u>
pH	~12	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	Not flammable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	~1.1	None known
Water Solubility	Soluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity

Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Exposure to vapor or mist may irritate respiratory tract and cause coughing. Inhalation of high concentrations may cause pulmonary edema.
Eye Contact	Corrosive. May cause severe damage to eyes.
Skin Contact	May cause severe irritation to skin. Prolonged contact may cause burns to skin.
Ingestion	Ingestion may cause burns to gastrointestinal tract and respiratory tract, nausea, vomiting, and diarrhea.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hypochlorite 7681-52-9	8200 mg/kg (Rat)	>10000 mg/kg (Rabbit)	-

Information on toxicological effects

Symptoms	May cause redness and tearing of the eyes. May cause burns to eyes. May cause redness or burns to skin. Inhalation may cause coughing.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available.
Mutagenic Effects	No information available.
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium hypochlorite 7681-52-9	-	Group 3	-	-

*IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans*

Reproductive Toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Chronic Toxicity	Carcinogenic potential is unknown.
Target Organ Effects	Respiratory system, eyes, skin, gastrointestinal tract (GI).
Aspiration Hazard	No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)

54 g/kg

ATEmix (inhalation-dust/mist)

58 mg/L

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams.

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Dispose of in accordance with all applicable federal, state, and local regulations. Do not contaminate food or feed by disposal of this product.

Contaminated Packaging

Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION**DOT**

Not restricted.

TDG

Not restricted for road or rail.

ICAO

Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.

IATA

Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.

IMDG/IMO

Not restricted, as per IMDG Code 2.10.2.7, Marine Pollutant exception.

15. REGULATORY INFORMATION

Chemical Inventories

TSCA All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.

DSL/NDSL All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite 7681-52-9	100 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium hypochlorite 7681-52-9	100 lb	–	RQ 100 lb final RQ RQ 45.4 kg final RQ

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER: CORROSIVE. Causes irreversible eye damage and skin burns. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear protective eyewear and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the restroom. Avoid breathing vapors and use only in a well-ventilated area.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium hypochlorite 7681-52-9	X	X	X	X	
Sodium chlorate 7775-09-9	X	X	X		

International Regulations**Canada****WHMIS Hazard Class**

E - Corrosive material

**16. OTHER INFORMATION**

NFPA Health Hazard 3 Flammability 0 Instability 0 Physical and Chemical Hazards -

HMIS Health Hazard 3 Flammability 0 Physical Hazard 0 Personal Protection B

Prepared By Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date June 12, 2015

Revision Note Revision Section 14.

Reference 1081722/166081.094

General Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

Issuing Date January 5, 2015

Revision Date New

Revision Number 0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Clorox Commercial Solutions® Green Works® 97% Naturally Derived All-Purpose Cleaner - Original Scent

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Multi-purpose spray cleaner

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address

Clorox Professional Products Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

Emergency telephone number

Emergency Phone Numbers For Medical Emergencies call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS Label elements, including precautionary statements

Emergency Overview

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Appearance	Clear, light green	Physical State	Thin liquid	Odor	Fresh Lemon
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Precautionary Statements - Prevention

None

Precautionary Statements - Response

None

Precautionary Statements - Storage

None

Precautionary Statements - Disposal

None

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity

1.9% of the mixture consists of ingredient(s) of unknown toxicity

Other information

May cause slight eye irritation.

Interactions with Other Chemicals

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product contains no substances that at their given concentrations are considered to be hazardous to health.

4. FIRST AID MEASURES

First aid measures

General Advice	Show this safety data sheet to the doctor in attendance.
Eye Contact	Hold eye open and rinse slowly and gently with water for 15–20 minutes. If present, remove contact lenses after the first 5 minutes of rinsing, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
Skin Contact	Rinse skin with plenty of water. If irritation persists, call a doctor.
Inhalation	Move to fresh air. If breathing problems develop, call a doctor.
Ingestion	Drink a glassful of water. Call a doctor or poison control center.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects	May cause slight eye irritation.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

Hazardous Combustion Products

Oxides of carbon.

Explosion Data

Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge No.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Avoid contact with eyes.
Other Information	Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions	See Section 12 for additional ecological information.
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Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for Cleaning Up	Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin, and clothing. Do not eat, drink, or smoke when using this product.
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Conditions for safe storage, including any incompatibilities

Storage	Keep containers tightly closed.
Incompatible Products	None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines	This product does not contain any ingredients with occupational exposure limits that are at concentrations below their cut-off values/concentrations and that contribute to the hazard classification of the product.
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Appropriate engineering controls

Engineering Measures	Showers Eyewash stations Ventilation systems
----------------------	--

Individual protection measures, such as personal protective equipment

Eye/Face Protection	No special protective equipment required.
Skin and Body Protection	No special protective equipment required.
Respiratory Protection	No protective equipment is needed under normal use conditions. If irritation is experienced, ventilation and evacuation may be required.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Thin liquid	Odor	Fresh lemon
Appearance	Clear	Odor Threshold	No information available
Color	Light green		

<u>Property</u>	<u>Values</u>	<u>Remarks/ Method</u>
pH	11 - 11.5	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	~1.0	None known
Water Solubility	Complete	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None known.

Conditions to avoid

None known.

Incompatible materials

None known.

Hazardous Decomposition Products

None known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Exposure to vapor or mist may irritate respiratory tract.
Eye Contact	May cause slight irritation.
Skin Contact	May cause slight irritation.
Ingestion	Ingestion of liquid may cause slight irritation to mucous membranes and gastrointestinal tract.

Information on toxicological effects

Symptoms May cause slight redness and tearing of eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage.

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethanol 64-17-5	A3	Group 1	Known	X

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.
Chronic Toxicity Contains a known or suspected carcinogen. Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage. Contains a known or suspected reproductive toxin. Ethanol has been shown to be a reproductive toxin only when consumed as an alcoholic beverage. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects. Repeated abuse can have long-term health effects.

Target Organ Effects Eyes, blood, central nervous system (CNS), liver, reproductive system, respiratory system.

Aspiration Hazard Not an aspiration hazard.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ethanol 64-17-5		LC50: 12.0 - 16.0 mL/L (96 h static) <i>Oncorhynchus mykiss</i> LC50: 13400 - 15100 mg/L (96 h flow-through) <i>Pimephales promelas</i> LC50: > 100 mg/L (96 h static) <i>Pimephales promelas</i>	EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min	LC50: 9268 - 14221 mg/L (48 h) <i>Daphnia magna</i> EC50: 10800 mg/L (24 h) <i>Daphnia magna</i> EC50: 2 mg/L (48 h Static) <i>Daphnia magna</i>

Persistence and Degradability

No information available.

Bioaccumulation

Chemical Name	Log Pow
Ethanol 64-17-5	-0.32

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Dispose of in accordance with all applicable federal, state, and local regulations.

Contaminated Packaging

Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated.
<u>TDG</u>	Not regulated.
<u>ICAO</u>	Not regulated.
<u>IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated

15. REGULATORY INFORMATION

Chemical Inventories

TSCA All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.

DSL/NDSL All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals. Ethyl alcohol is only considered a Proposition 65 developmental hazard when it is ingested as an alcoholic beverage.

Chemical Name	California Proposition 65
Ethanol 64-17-5	Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Ethanol 64-17-5		X			

International Regulations

Canada

WHMIS Hazard Class

Not controlled.

16. OTHER INFORMATION

NFPA Health Hazard 0 Flammability 0 Instability 0 Physical and Chemical Hazards -

HMIS Health Hazard 0 Flammability 0 Physical Hazard 0 Personal Protection -

Prepared By Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Preparation/Revision Date January 5, 2015

Revision Note New

Reference 1123927/128987.001

General Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

Issuing Date January 5, 2015

Revision Date June 12, 2015

Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Clorox® Regular-Bleach₁

Other means of identification

EPA Registration Number 5813-100

Recommended use of the chemical and restrictions on use

Recommended use Household disinfecting, sanitizing, and laundry bleach

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address

The Clorox Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

Emergency telephone number

Emergency Phone Numbers

For Medical Emergencies, call: 1-800-446-1014


For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

GHS Label elements, including precautionary statements**Emergency Overview**

Signal word		Danger	
Hazard Statements			
Causes severe skin burns and eye damage			
Causes serious eye damage			
			
Appearance	Clear, pale yellow	Physical State	Thin liquid
		Odor	Bleach

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling.

Wear protective gloves, protective clothing, face protection, and eye protection such as safety glasses.

Precautionary Statements - Response

Immediately call a poison center or doctor.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

Wash contaminated clothing before reuse.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

Specific treatment (see supplemental first aid instructions on this label).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents in accordance with all applicable federal, state, and local regulations.

Hazards not otherwise classified (HNOC)

Although not expected, heart conditions or chronic respiratory problems such as asthma, chronic bronchitis, or obstructive lung disease may be aggravated by exposure to high concentrations of vapor or mist.

Product contains a strong oxidizer. Always flush drains before and after use.

Unknown Toxicity

Not applicable.

Other information

Very toxic to aquatic life with long lasting effects.

Interactions with Other Chemicals

Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Sodium hypochlorite	7681-52-9	5 - 10	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**First aid measures****General Advice**

Call a poison control center or doctor immediately for treatment advice. Show this safety data sheet to the doctor in attendance.

Eye Contact

Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin Contact

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation

Move to fresh air. If breathing is affected, call a doctor.

Ingestion

Have person sip a glassful of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice.

Protection of First-aiders

Avoid contact with skin, eyes, and clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed**Most Important Symptoms and Effects**

Burning of eyes and skin.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

This product causes burns to eyes, skin, and mucous membranes. Thermal decomposition can release sodium chlorate and irritating gases and vapors.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions

Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Use personal protective equipment as required. For spills of multiple products, responders should evaluate the MSDSs of the products for incompatibility with sodium hypochlorite. Breathing protection should be worn in enclosed and/or poorly-ventilated areas until hazard assessment is complete.

Other Information

Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams. See Section 12 for ecological Information.

Methods and material for containment and cleaning up

Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up

Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Store away from children. Reclose cap tightly after each use. Store this product upright in a cool, dry area, away from direct sunlight and heat to avoid deterioration. Do not contaminate food or feed by storage of this product.

Incompatible Products Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hypochlorite 7681-52-9	None	None	None

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection If splashes are likely to occur: Wear safety glasses with side shields (or goggles) or face shield.

Skin and Body Protection Wear rubber or neoprene gloves and protective clothing such as long-sleeved shirt.

Respiratory Protection If irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods. Remove and wash contaminated clothing before re-use. Do not eat, drink, or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Thin liquid	Odor	Bleach
Appearance	Clear	Odor Threshold	No information available
Color	Pale yellow		

<u>Property</u>	<u>Values</u>	<u>Remarks/ Method</u>
pH	~12	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	Not flammable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	~1.1	None known
Water Solubility	Soluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity

Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Exposure to vapor or mist may irritate respiratory tract and cause coughing. Inhalation of high concentrations may cause pulmonary edema.
Eye Contact	Corrosive. May cause severe damage to eyes.
Skin Contact	May cause severe irritation to skin. Prolonged contact may cause burns to skin.
Ingestion	Ingestion may cause burns to gastrointestinal tract and respiratory tract, nausea, vomiting, and diarrhea.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hypochlorite 7681-52-9	8200 mg/kg (Rat)	>10000 mg/kg (Rabbit)	-

Information on toxicological effects

Symptoms	May cause redness and tearing of the eyes. May cause burns to eyes. May cause redness or burns to skin. Inhalation may cause coughing.
-----------------	--

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available.
Mutagenic Effects	No information available.
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium hypochlorite 7681-52-9	-	Group 3	-	-

*IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans*

Reproductive Toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Chronic Toxicity	Carcinogenic potential is unknown.
Target Organ Effects	Respiratory system, eyes, skin, gastrointestinal tract (GI).
Aspiration Hazard	No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)

54 g/kg

ATEmix (inhalation-dust/mist)

58 mg/L

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams.

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Dispose of in accordance with all applicable federal, state, and local regulations. Do not contaminate food or feed by disposal of this product.

Contaminated Packaging

Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION**DOT**

Not restricted.

TDG

Not restricted for road or rail.

ICAO

Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.

IATA

Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.

IMDG/IMO

Not restricted, as per IMDG Code 2.10.2.7, Marine Pollutant exception.

15. REGULATORY INFORMATION

Chemical Inventories

TSCA All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.

DSL/NDSL All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite 7681-52-9	100 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium hypochlorite 7681-52-9	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER: CORROSIVE. Causes irreversible eye damage and skin burns. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear protective eyewear and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the restroom. Avoid breathing vapors and use only in a well-ventilated area.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium hypochlorite 7681-52-9	X	X	X	X	
Sodium chlorate 7775-09-9	X	X	X		

International Regulations**Canada****WHMIS Hazard Class**

E - Corrosive material

**16. OTHER INFORMATION**

NFPA Health Hazard 3 Flammability 0 Instability 0 Physical and Chemical Hazards -

HMIS Health Hazard 3 Flammability 0 Physical Hazard 0 Personal Protection B

Prepared By Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date June 12, 2015

Revision Note Revision Section 14.

Reference 1096036/164964.159

General Disclaimer

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End of Safety Data Sheet

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 256.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Cobalt Nitrate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Oxidizing solids (Category 2). May intensify fire; oxidizer (H272). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Sensitization, skin and respiratory (Category 1). May cause an allergic skin reaction or asthma symptoms or breathing difficulties if inhaled (H317+H334). Avoid breathing dust or fumes (P261).

Hazard class: Carcinogenicity (Category 1). May cause cancer (H350). Obtain special instructions before use (P201). Do not handle until all safety precautions have been read and understood (P202). Use personal protective equipment as required (P281).

Hazard class: Reproductive toxicity (Category 1). May damage fertility or the unborn child (H360).

Hazard class: Germ cell mutagenicity (Category 2). Suspected of causing genetic defects (H341).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Cobalt nitrate hexahydrate	10026-22-9	$\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$	291.05	
Synonyms: Cobalt(II) nitrate; Cobaltous nitrate; Cobalt dinitrate				

SECTION 4 — FIRST AID MEASURES

If exposed or concerned: Get medical advice or attention (P308+P313).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Rinse cautiously with water for several minutes (P302+P351). Wash contaminated clothing before reuse (P363).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P301+P330+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

Strong oxidizing material, severe fire hazard in contact with organic materials. When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA Code

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #3. Store with amides, nitrates, nitrites and azides.

Deliquescent. Store in a cool, dry place within a Flinn Chem-Saf™ bag.

Keep away from combustible materials (P220). Take any precautions to avoid mixing with combustibles (P221). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

Contaminated clothing should not be allowed out of the workplace (P272). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: (as cobalt) PEL 0.1 mg/m³ (OSHA); TLV 0.02 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Brown-orange powder. Odorless.

Melting point: 56 °C

Soluble: Water, alcohol, and most organic solvents.

Specific gravity: 1.88

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with reducers, organic materials, heat, and moisture.

Shelf life: Poor, deliquescent. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Harmful dust, irritant.

ORL-RAT LD₅₀: 691 mg/kg

Chronic effects: Cobalt and cobalt compounds are possible human carcinogens (IARC-2B).

IHL-RAT LC₅₀: N.A.

Target organs: Lungs, thyroid.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #27f is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Nitrates, Inorganic, N.O.S. Hazard class: 5.1, Oxidizer. UN number: UN1477.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (233-402-1), RCRA code D001.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 25, 2014

SAFETY DATA SHEET

Date Prepared : 01/22/2015

SDS No : H15

Coco 15

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Coco 15
GENERAL USE: Hand cleaner
PRODUCT DESCRIPTION: Coconut Oil Hand Soap
PRODUCT CODE: H15
CHEMICAL FAMILY: Soap blend

MANUFACTURER

MISCO Products Corporation
1048 Stinson Drive
Reading, PA 19605
Emergency Phone: 610-926-4106
Customer Service: 800-548-4568
Transportation: 800-548-4568

24 HR. EMERGENCY TELEPHONE NUMBERS

CHEM-TEL (Medical and Transportation): 800-255-3924
POISON CONTROL CENTER (Medical): 800-222-1222

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATIONS

Health:

Eye Irritation, Category 2B

GHS LABEL

SIGNAL WORD: WARNING

HAZARD STATEMENTS

H320: Causes eye irritation.

PRECAUTIONARY STATEMENT(S)

Prevention:

P264: Wash hands thoroughly after handling.

Response:

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

P308+P313: IF exposed or concerned: Get medical advice/ attention.

Storage:

P404: Store in a closed container.

P405: Store locked up.

Disposal:

P501: Dispose of contents/container according to all local, state and Federal regulations.

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Light green

IMMEDIATE CONCERNS: None Expected.

POTENTIAL HEALTH EFFECTS

EYES: Contact causes eye irritation.

SKIN: None Expected.

SKIN ABSORPTION: None

INGESTION: Large doses may cause nausea.

INHALATION: NA = Not Applicable

REPRODUCTIVE TOXICITY

TERATOGENIC EFFECTS: No known significant effects or critical hazards.

CARCINOGENICITY: No listed substance

MUTAGENICITY: None known.

ROUTES OF ENTRY: Ingestion, eye

CANCER STATEMENT: None

WARNING CAUTION LABELS: None

PHYSICAL HAZARDS: None

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS
Fatty acids, tall-oil, potassium salts	5 - 10	61790-44-1
Fatty acids, coconut oil, potassium salts	0 - 5	68783-34-6
Fragrance	0 - 1	N/A
Dye	0 - 0.1	N/A
Water	80 - 90	7732-18-5

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

SKIN: No known significant effects or critical hazards.

INGESTION: Get immediate medical attention. Do not induce vomiting unless instructed to do so by poison center or physician.

INHALATION: NA = Not Applicable

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Slight discomfort with redness, watering eyes.

SKIN: No known significant effects or critical hazards.

SKIN ABSORPTION: No known significant effects or critical hazards.

INGESTION: Nausea with large amounts.

INHALATION: NA = Not Applicable

CHRONIC EFFECTS: None

5. FIRE FIGHTING MEASURES

FLAMMABLE CLASS: NA = Not Applicable

GENERAL HAZARD: None

EXTINGUISHING MEDIA: Not required. Water based material.

EXPLOSION HAZARDS: NA = Not Applicable

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Avoid walking in product. Wipe up or otherwise flush small spills to sanitary sewer.

LARGE SPILL: Avoid walking in material. Prevent product from entering into stream, soil, storm sewer or other bodies of water.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: No known significant effects or critical hazards.

LAND SPILL: No known significant effects or critical hazards.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Close container after use.

HANDLING: No special requirements.

STORAGE: Store in area inaccessible to children.

STORAGE TEMPERATURE: Store at ambient temperatures.

STORAGE PRESSURE: Store at ambient atmospheric pressure.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: No special requirements.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: No special requirements.

SKIN: No special requirements.

RESPIRATORY: None

PROTECTIVE CLOTHING: No special requirements.

WORK HYGIENIC PRACTICES: No special requirements.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Floral

ODOR THRESHOLD: Not Established

COLOR: Lime Green

pH: 10.3 to 10.8

PERCENT VOLATILE: >85

FLASH POINT AND METHOD: NA = Not Applicable

FLAMMABLE LIMITS: N/A

AUTOIGNITION TEMPERATURE: NA = Not Applicable

VAPOR PRESSURE: ~ 20 mm Hg at (68°F)

VAPOR DENSITY: 1 Air = 1

BOILING POINT: 212° F; 100° C

FREEZING POINT: 32° F; 0° C

THERMAL DECOMPOSITION: Not Available

SOLUBILITY IN WATER: Complete

EVAPORATION RATE: (Water =1) 1.0

DENSITY: ~ 8.35 at (68°F)

SPECIFIC GRAVITY: 1.002 grams/ml. at (68°F)

VISCOSITY: Slightly viscous.

(VOC): None

10. STABILITY AND REACTIVITY

REACTIVITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

STABILITY: Stable under normal storage and use conditions.

CONDITIONS TO AVOID: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: None Expected.

INCOMPATIBLE MATERIALS: None

11. TOXICOLOGICAL INFORMATION

ACUTE

EYES: Causes eye irritation.

DERMAL LD₅₀: No known significant effects or critical hazards.

ORAL LD₅₀: No known significant effects or critical hazards.

INHALATION LC₅₀: NA = Not Applicable

EYE EFFECTS: Mild to moderate eye irritant.

SKIN EFFECTS: No known significant effects or critical hazards.

CHRONIC: No known significant effects or critical hazards.

CARCINOGENICITY

IARC: No listed substance

IRRITATION: Mild irritant

SENSITIZATION: No known significant effects or critical hazards.

REPRODUCTIVE EFFECTS: No known significant effects or critical hazards.

MUTAGENICITY: No known significant effects or critical hazards.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No known significant effects or critical hazards.

ECOTOXICOLOGICAL INFORMATION: Not Established

AQUATIC TOXICITY (ACUTE): No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Although not a hazardous waste, the discarding or disposal of this material should be done at a properly permitted facility in accordance with the regulations 40CFR 262, 263, 264, and 268. Additionally, the discarding or disposal of this material may be further regulated by state, regional, or local regulations.

FOR LARGE SPILLS: Consult with local and state authorities for large volume disposal.

PRODUCT DISPOSAL: Diluted product can be flushed to sanitary sewer.

EMPTY CONTAINER: Rinse container with clear water. Offer container for recycling, or dispose of in trash.

RCRA/EPA WASTE INFORMATION: NA = Not Applicable

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Cleaning Compound, not regulated.

PRIMARY HAZARD CLASS/DIVISION: NA = Not Applicable

LABEL: None

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: None

FIRE: No **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** No

313 REPORTABLE INGREDIENTS: No listed substance

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: No products were found.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: All ingredients are listed on the TSCA Chemical Inventory.

CALIFORNIA PROPOSITION 65: None

CARCINOGEN: No listed substance

16. OTHER INFORMATION

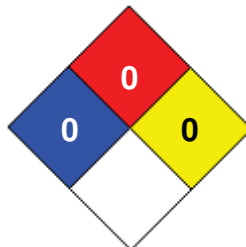
PREPARED BY: Regulatory Affairs Department

Date Prepared: 01/22/2015

HMIS RATING

HEALTH		1
FLAMMABILITY		0
PHYSICAL HAZARD		0
PERSONAL PROTECTION		-

NFPA CODES



MANUFACTURER DISCLAIMER: This company cannot anticipate all conditions of handling and use of this product. Therefore, this company accepts no responsibility for results obtained by the application of this information, or the safety and suitability of the product either alone or in combination with other products. It is the responsibility of the employer and/or user to provide a safe workplace, using health and safety information contained herein as a guide. This company will accept no liability for damages or losses incurred from the improper handling and use of this product.

Material Safety Data Sheet



1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Page: 1

24-Hour Emergency Phone Number: 989-636-4400

Product: COMBOTHERM* BLENDED DEICER

Product Code: 73446

Effective Date: 09/03/02

Date Printed: 12/26/02

MSD: 006953

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

2. COMPOSITION/INFORMATION ON INGREDIENTS

Calcium chloride

CAS# 010043-52-4

70% Min.

Other salts

CAS# 007647-14-5

5% Nom.

CAS# 007447-40-7

Water

CAS# 007732-18-5

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

* White and green solid chips. Odorless. Causes eye irritation. *
* May cause skin irritation. May be harmful if swallowed. *

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause severe irritation with corneal injury. Effects may be slow to heal. When dissolving, the heat produced may cause more intense effects as well as thermal burns.

SKIN: Brief contact is essentially nonirritating to skin. Prolonged or repeated exposure may cause skin irritation, even a burn. Prolonged skin contact is unlikely to result in absorption of harmful amounts. May cause more severe response if skin is damp. May cause more severe response if confined to skin or skin is abraded (scratched or cut). When dissolving, the heat produced may cause more intense effects as well as thermal burns.

INGESTION: Low toxicity if swallowed. Swallowing may result in irritation of the mouth, throat, and gastrointestinal tract.

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Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

INHALATION: Dust may cause irritation to upper respiratory tract (nose and throat). Vapors are unlikely due to physical properties.

SYSTEMIC & OTHER EFFECTS: For potassium chloride: In animals, effects have been reported on the following organs following ingestion: gastrointestinal tract, heart, kidney. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

CANCER INFORMATION: No relevant information found.

TERATOLOGY (BIRTH DEFECTS): No relevant information found.

REPRODUCTIVE EFFECTS: No relevant information found.

4. FIRST AID

EYES: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

SKIN: Wash skin with plenty of water.

INGESTION: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

INHALATION: Move person to fresh air; if effects occur, consult a physician.

NOTE TO PHYSICIAN: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: Not applicable.

METHOD USED: Not applicable.

(Continued on page 3)

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FLAMMABILITY LIMITS

LFL: Not applicable.

UFL: Not applicable.

HAZARDOUS COMBUSTION PRODUCTS: Not applicable.

EXTINGUISHING MEDIA: This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and full protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves).

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Isolate area. Avoid contact with eyes and skin. May be a slipping hazard. Stop leak if it can be done safely. Wash exposed body areas thoroughly after handling. Use appropriate safety equipment. For additional information, refer to "Exposure Controls/Personnel Protection", MSDS Section 8.

PROTECT THE ENVIRONMENT: For small spills: Losses incidental to correct applications of this product in its intended uses are not expected to be harmful to the environment.

For large spills: Avoid contamination of drinking water, natural water, ground water or any waterway. Losses incidental to correct applications of this product in its intended uses are not expected to be harmful to the environment.

CLEANUP: For small spills: Contain spill if possible. Collect material in a suitable and properly labeled containers. Flush residue with plenty of water.

For large spills: Dike and transfer to suitable and properly labeled containers. Flush residue with plenty of water.

7. HANDLING AND STORAGE

HANDLING: Heat developed during diluting or dissolving is very

(Continued on page 4 , over)

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high. Use cool water when diluting or dissolving (temperature less than 80F, 27C).

Refer to Exposure Controls/Personal Protection, Section 8, of the MSDS.

For more storage and Handling Information refer to bulletin 173-01534.

STORAGE: Keep containers tightly closed when not in use. Store in a dry place. Protect from atmospheric moisture.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use safety glasses. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

SKIN PROTECTION: Wear clean, long-sleeved, body-covering clothing. Use gloves chemically resistant to this material. When prolonged or frequently repeated contact could occur, use chemically protective clothing resistant to this material. Selection of specific items such as faceshield, gloves, boots, apron, or full-body suit will depend on operation. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. In dusty or misty atmospheres, use an approved particulate respirator.

EXPOSURE GUIDELINES: Calcium chloride: Dow IHG is 10 mg/m3.
Dow IHG is 10 mg/m3 for a salt in this compound.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: White and green solid chips.

ODOR: None.

MELTING POINT: Approx. 345F, 174C.

BOILING POINT: 347F, 175C

(Continued on page 5)

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VAP. PRESS: 1.0 mmHg @ 20C, 68F
VAP. DENSITY: Not applicable.
SOL. IN WATER: Very soluble
SP. GRAVITY: 1.85

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable. Hygroscopic.

CONDITIONS TO AVOID: None known.

INCOMPATIBILITY WITH OTHER MATERIALS: Corrosive to some metals.
Avoid contact with metals such as: brass, mild steel, aluminum,
or ferrous metals. Flammable hydrogen may be generated from
contact with metals such as zinc or sodium. Avoid contact with
sulfuric acid. Heat is generated when mixed with water.
Spattering or boiling can occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Does not decompose.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

SKIN: The LD50 for skin absorption in rabbits is >5000 mg/kg
for CaCl₂.

INGESTION: The oral LD50 in rats is 900-2100 for CaCl₂.

MUTAGENICTY: In vitro mutagenicity studies were negative.

12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Partitioning from water to n-octanol
is not applicable.

DEGRADATION & PERSISTANCE: Biodegradation is not applicable.
Inhibitory concentration (IC50) in OECD Activated Sludge
Respiration Inhibition Test (OECD Test No. 209) is >1000
mg/L.

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ECOTOXICITY: Based largely or completely on data for major component(s): Material is practically non-toxic to aquatic organisms on an acute basis (LC50 or EC50 >100 mg/L in the most sensitive species tested).

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

DISPOSAL: All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: reclaimer, landfill, or waste water treatment system.

For additional information, refer to:

- Handling & Storage Information, MSDS Section 7.
- Stability & Reactivity Information, MSDS Section 10.
- Regulatory Information, MSDS Section 15.

As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Center at 800-258-2436 or 989-832-1556 for further details.

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (D.O.T.): This product is not regulated by D.O.T. when shipped domestically by land.

CANADIAN TDG INFORMATION: This product is not regulated by TDG when shipped domestically by land.

15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and

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believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

=====

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard

This product has been categorized as an "immediate health hazard" due the possibility of eye or skin irritation.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

The CAS number(s) for TSCA is(are):

CAS# 010043-52-4

CAS# 007647-14-5

CAS# 007447-40-7

CAS# 007732-18-5

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of

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REGULATORY INFORMATION (CONTINUED)

New Jersey
Pennsylvania

OSHA HAZARD COMMUNICATION STANDARD:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

This product has been categorized as a "Hazardous Chemical" due to the possibility of eye or skin irritation.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT
(CERCLA, or SUPERFUND):

To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA.

CANADIAN REGULATIONS

=====

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

D2B - eye or skin irritant

Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

- - - - -

CPR STATEMENT: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

- - - - -

HAZARDOUS PRODUCTS ACT INFORMATION: This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

COMPONENTS:	CAS #	AMOUNT(%w/w)
CALCIUM CHLORIDE	010043-52-4	70% min.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):

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REGULATORY INFORMATION (CONTINUED)

All substances in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. OTHER INFORMATION

MSDS STATUS: Revised Sections 2, 3, 4, 8, 9, 12, 13 and 15.

* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY
The Information Herein Is Given In Good Faith, But No Warranty,
Express Or Implied, Is Made. Consult The Dow Chemical Company
For Further Information.

1. IDENTIFICATION

Product Name	Comet® Cleaner with Bleach - Ready to Use
Product Code(s)	3-30
Product ID:	15154199_PROF_NG
Product Type:	Finished Product - Professional Use Only
Recommended Use	Hard Surface Cleaner
Restrictions on Use	Do not mix with other cleaning products or chemicals as irritating fumes may be formed.
Manufacturer	Procter & Gamble Professional 2 P&G Plaza Cincinnati, Ohio 45202 Procter & Gamble Inc. P.O. Box 355, Station A Toronto, ON M5W 1C5 1-800-332-7787
E-mail Address	pgsds.im@pg.com
Emergency Telephone	Transportation (24 HR) CHEMTREC - 1-800-424-9300 (U.S./ Canada) or 1-703-527-3887 Mexico toll free in country: 800-681-9531

2. HAZARD IDENTIFICATION

This product is classified under 29CFR 1910.1200(d) and the Canadian Hazardous Products Regulation as follows:.

Hazard Category

Eye Damage / Irritation
Corrosive to metals

Category 2B
Category 1

Signal Word

WARNING

Hazard Statements

Causes eye irritation
May be corrosive to metals

Hazard pictograms



Precautionary Statements - Prevention	Wash hands thoroughly after handling Keep only in original container Do not mix with other cleaning products or chemicals as irritating fumes may be formed
Precautionary Statements - Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention IF SWALLOWED: Drink 1 or 2 glasses of water Absorb spillage to prevent material damage
Precautionary Statements - Storage	Store in corrosive resistant container
Precautionary Statements - Disposal	Dispose of contents/container in accordance with local regulation
Hazards not otherwise classified (HNOC)	None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients are listed according to 29CFR 1910.1200 Appendix D and the Canadian Hazardous Products Regulation

Chemical Name	Synonyms	Trade Secret	CAS-No	Weight %
Sulfuric acid, monooctyl ester, sodium salt (1:1)	-	No	142-31-4	1 - 5
Sulfuric acid monododecyl ester sodium salt (1:1)	-	No	151-21-3	1 - 5
Sodium hypochlorite	-	No	7681-52-9	1 - 5

4. FIRST AID MEASURES

First aid measures for different exposure routes

Eye contact	Rinse with plenty of water. Get medical attention immediately if irritation persists.
Skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
Ingestion	Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately if symptoms occur.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Most important symptoms/effects, acute and delayed	None under normal use conditions.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Dry chemical, CO ₂ , alcohol-resistant foam or water spray.
Unsuitable Extinguishing Media	None.

Special hazard	None known.
Special protective equipment for fire-fighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Specific hazards arising from the chemical	None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment. Do not get in eyes, on skin, or on clothing.
Advice for emergency responders	Use personal protective equipment as required.

Methods and materials for containment and cleaning up

Methods for containment	Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
Methods for cleaning up	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Use personal protective equipment as required. Keep container closed when not in use. Never return spills in original containers for re-use. Keep out of the reach of children.
--------------------------------	---

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store in corrosive resistant container.
Incompatible products	Do not mix with other cleaning products or chemicals as irritating fumes may be formed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines	No exposure limits noted for ingredient(s).
----------------------------	---

Exposure controls

Engineering Measures	Distribution, Workplace and Household Settings: Ensure adequate ventilation Product Manufacturing Plant (needed at Product-Producing Plant ONLY): Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction
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Personal Protective Equipment

Eye Protection	Distribution, Workplace and Household Settings: No special protective equipment required
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Product Manufacturing Plant (needed at Product-Producing Plant ONLY):

Use appropriate eye protection

Hand Protection**Distribution, Workplace and Household Settings:**

No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):

Protective gloves

Skin and Body Protection**Distribution, Workplace and Household Settings:**

No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):

Wear suitable protective clothing

Respiratory Protection**Distribution, Workplace and Household Settings:**

No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):

In case of insufficient ventilation wear suitable respiratory equipment

9. PHYSICAL AND CHEMICAL PROPERTIES
--

Physical State @20°C

liquid

Appearance

clear

Odor

Scented

Odor threshold

No information available

PropertyValuesNote**pH value**

12.6 - 13.4

Melting/freezing point

No information available

Boiling point/boiling range

No information available

Flash point

> 93.3 °C / > 200 °F

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Flammability Limits in Air**Upper flammability limit**

No information available

Lower Flammability Limit

No information available

Vapor pressure

No information available

Vapor density

No information available

Relative density

1.045

Water solubility

100%

Solubility in other solvents

No information available

Partition coefficient: n-octanol/water

No information available

Autoignition temperature

No information available

Decomposition temperature

No information available

Viscosity of Product

No information available < 10 cps

Oxidizing properties

These substances will accelerate burning when involved in a fire.

VOC Content (%)

Products comply with US state and federal regulations for VOC content in consumer products.

10. STABILITY AND REACTIVITY

Reactivity

None under normal use conditions.

Stability

Stable under normal conditions.

Hazardous polymerization

Hazardous polymerization does not occur.

Hazardous Reactions	None under normal processing.
Conditions to Avoid	None under normal processing.
Materials to avoid	Do not mix with other cleaning products or chemicals as irritating fumes may be formed.
Hazardous Decomposition Products	None under normal use.

11. TOXICOLOGICAL INFORMATION

Product Information

Information on likely routes of exposure

Inhalation	No known effect.
Skin contact	No known effect.
Ingestion	No known effect.
Eye contact	Irritating to eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Acute toxicity	No known effect.
Skin corrosion/irritation	No known effect.
Serious eye damage/eye irritation	Irritating to eyes.
Skin sensitization	No known effect.
Respiratory sensitization	No known effect.
Germ cell mutagenicity	No known effect.
Neurological Effects	No known effect.
Reproductive toxicity	No known effect.
Developmental toxicity	No known effect.
Teratogenicity	No known effect.
STOT - single exposure	No known effect.
STOT - repeated exposure	No known effect.
Target Organ Effects	No known effect.
Aspiration hazard	No known effect.
Carcinogenicity	No known effect.

Component Information

Chemical Name	CAS-No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfuric acid monododecyl ester sodium salt (1:1)	151-21-3	977 mg/kg bw (OECD 401; rat)	> 500 mg/kg bw (Read across data C10-16ASO ₄ , NH ₄ ; guideline: Standard Procedure #10; fixed dose procedure; rabbit; based on active ingredient)	-
Sodium hypochlorite	7681-52-9	626 mg/kg bw (Similar to OECD 401; standard acute method; rat)	> 20000 mg/kg bw (Guideline: 16 CFR 1500.40 and similar to OECD 402; rabbit)	> 10.5 mg/L air (Similar to OECD 403; rat; 1 h)

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic organisms.

Persistence and degradability	No information available.
Bioaccumulative potential	No information available.
Mobility	No information available.
Other adverse effects	No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste from Residues / Unused Products

Products covered by this MSDS, in their original form, when disposed as waste, are corrosive hazardous waste, D002, according to Federal RCRA regulations (40 CFR 261). Disposal should be in accordance with local, state and federal regulations.

Contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Codes 331
(non-household setting)

14. TRANSPORT INFORMATION

DOT

UN no	UN1760
UN Proper shipping name	Corrosive liquids, n.o.s.
Description	UN1760, Corrosive liquid, n.o.s, (sodium hydroxide, sodium hypochlorite), 8,III , Ltd. Qty.
Hazard Class	8
Packing Group	III

IMDG

UN Number	UN1760
UN Proper shipping name	Corrosive liquid, n.o.s.
Description	UN1760, Corrosive liquid, n.o.s , (sodium hydroxide, sodium hypochlorite), 8, III, MARINE POLLUTANT , Ltd. Qty.
Transport hazard class(es)	8
Packing Group	III

IATA

UN no	UN1760
UN Proper shipping name	Corrosive liquid, n.o.s.
Description	UN1760, Corrosive liquid, n.o.s, (sodium hydroxide, sodium hypochlorite), 8,III , Ltd. Qty.
Hazard Class	8
Packing Group	III

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	CAS-No	Hazardous Substances RQs	Extremely Hazardous Substances RQs	CERCLA/SARA 302 TPQ
Sodium hypochlorite	7681-52-9	100 lb	-	
Sodium hydroxide	1310-73-2	1000 lb	-	

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CAS-No	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite	7681-52-9	100 lb	-	-	X
Sodium hydroxide	1310-73-2	1000 lb	-	-	X

California Proposition 65

This product is not subject to warning labeling under California Proposition 65.

U.S. State Regulations (RTK)

Chemical Name	CAS-No	New Jersey
Sodium hypochlorite	7681-52-9	X

Chemical Name	CAS-No	Massachusetts
Sodium hypochlorite	7681-52-9	X

Chemical Name	CAS-No	Pennsylvania
Sodium hypochlorite	7681-52-9	X
Sodium hydroxide	1310-73-2	X

Chemical Name	CAS-No	Rhode Island
Sodium hypochlorite	7681-52-9	X

International Inventories**United States**

All intentionally-added components of this product(s) are listed on the US TSCA Inventory.

Canada

This product is in compliance with CEPA for import by P&G.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

CEPA - Canadian Environmental Protection Act

16. OTHER INFORMATION

HMIS Ratings

Health hazard	2
Flammability	1
Physical hazard	0

NFPA Ratings

Health hazard	2
Flammability	1
Instability	0

Issuing Date: 09-Jan-2015

Revision Date: 07-Apr-2015

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS



Page 1 of 4

The Procter & Gamble Company
P&G Household Care
Fabric & Home Care Innovation Center
5299 Spring Grove Avenue
Cincinnati, OH 45217-1087

MATERIAL SAFETY DATA SHEET

MSDS #: N/A
Supersedes: N/A

Issue Date: 3/20/06
Issue Date: 6/01

SECTION I - CHEMICAL PRODUCT

Identity: **Disinfectant Powder Cleanser**

Finished Product

Brands: **COMET Disinfectant Cleanser with Chlorinol (Professional Line)**

P&G Telephone Number: 1-800-332-7787 or call Local Poison Control Center or your physician.

SECTION II - COMPOSITION AND INGREDIENTS

Ingredients/Chemical Name: Bleach, cleaning agents (calcium carbonate, sodium carbonate, anionic surfactants), quality control agents, perfume, color. Comet Disinfectant Cleanser with Chlorinol contains no phosphorus.

Hazardous Ingredients as defined by OSHA, 29 CFR 1910.1200. and/or WHMIS under the HPA:

<u>Chemical Name</u>	<u>Common Name</u>	<u>CAS No.</u>	<u>Composition</u> <u>Range</u>	<u>LD50/LC50</u>
Calcium carbonate	Limestone	1317-65-3	60-88%	NA/NA

SECTION III - HAZARDS IDENTIFICATION**Potential Health Hazards (Acute and Chronic):** (See Section 11 for more information)

Ingestion: Mild mucous membrane irritant. May result in gastrointestinal irritation with nausea, vomiting and diarrhea.

Eye Contact: Mild eye irritant. Direct contact with eye may result in superficial, temporary irritation similar to those produced by other household detergents.

Skin: Mild skin irritant. Prolonged skin contact or direct contact with eye may result in superficial, temporary irritation similar to those produced by other household detergents.

Inhalation: Mild respiratory irritant. Unusually high exposures may cause coughing or irritation of nose and throat.

Signs and Symptoms of Exposure:

Ingestion: Ingestion of larger amounts leads to emesis.

Eye Contact: Stinging and burning of eyes can occur unless flushed immediately with water.

Skin Contact: Mild irritation is possible with prolonged contact.

Inhalation: Dust irritation is possible.

Medical Conditions Generally Known to be Aggravated by Exposure: None known.

Potential Environmental Effects: (See Section 12 for more information)**SECTION IV – FIRST AID INFORMATION****First Aid Procedures:**

Ingestion: Dilute with fluids and treat symptomatically.

Eye Contact: For accidental eye contact, flush thoroughly with water for 15 minutes.

Skin: Wash with soap and water and discontinue use.

Inhalation: For accidental, high level inhalation, remove to fresh air. Get medical attention if coughing persists.

Note to Physician: (if applicable)

Other: Product package has a caution statement: CAUTION: KEEP OUT OF REACH OF CHILDREN. May cause eye irritation. In case of eye contact, flush thoroughly with water. If irritation persists, see a physician. If swallowed, drink a glass of water to dilute. Do not mix with other products especially toilet bowl cleansers and products that contain ammonia.

SECTION V - FIRE FIGHTING INFORMATION

Flash Point (Method Used): N/A

Flammable Properties:

Upper Flammable Limit:

Lower Flammable Limit:

Explosive Limits: UEL: N/A LEL: N/A

Auto-ignition Temperature:**Hazardous Combustion Products:****Explosion Data (Sensitivity to Mechanical Impact):****Explosion Data (Sensitivity to Static Discharge):****Extinguishing Media:**

Suitable: Use CO₂, water, or dry chemical.

Unsuitable: None known.

Protection of Firefighters:

Specific Hazards Arising from the Material: None known.

Protective Equipment and Precautions for Firefighters: Normal firefighting gear.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Recommendation is to wear gloves for handling/cleanup, and dust masks if considerable dust is airborne.

Environmental Precautions: DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. Product contains biodegradable surfactant. If permitted, flush small quantities down sewer drain with large excess of water or dispose of at landfill.

Methods for Containment:

Methods for Cleanup: Vacuum to remove spill and place in trash container for disposal or flush with water. Do not dry sweep.

Other Information: (if applicable)

SECTION VII – HANDLING AND STORAGE

Precautions To Be Taken in Handling: Keep product dry.

Precautions To Be Taken in Storage: Avoid moisture when storing to prevent loss of bleaching action and to prevent caking.

SECTION VIII - EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Guidelines: N/A

Engineering Controls: N/A

Personal Protective Equipment (PPE):

Eye/Face Protection: None required with normal use. For splash protection, use chemical goggles.

Skin Protection: Protective gloves (rubber, neoprene) should be used for prolonged direct contact.

Respiratory Protection: None required with normal use. For bulk handling or other dusty conditions, use respiratory protection approved by NIOSH for dust.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance (color, physical form, shape): Green powder.

Flash Point (Method Used): N/A

Odor: Cedar pine scent.

Reserve Alkalinity: N/A

Odor Threshold:

Solubility in Water: Moderately

Physical State: Powder

Decomposition Temperature: N/A

Vapor Pressure (mm Hg): N/A

Evaporation Rate (nBuOAc=1): N/A

Vapor Density (Air=1): N/A

Specific Gravity/Density: ca. 1

Boiling Point: N/A

Melting/Freezing Point: N/A

Partition Coefficient (n-octanol/water): N/A

pH (specify % solution): N/A

SECTION X - STABILITY AND REACTIVITY

Chemical Stability: Stable

Conditions to Avoid: None known.

Incompatible Materials: Ammonia and acids

Hazardous Decomposition Products: Chlorine gas

Possibility of Hazardous Reactions: None known.

SECTION XI - TOXICOLOGICAL INFORMATION

Calcium carbonate, an ingredient of this product, contains small amounts of crystalline silica (quartz) as a naturally occurring impurity. Prolonged, excessively high exposures to respirable crystalline silica may result in reduced lung function in some individuals. IARC has found sufficient evidence to classify crystalline silica as a carcinogen in animals, but there is limited evidence in humans.

LD50 (rats oral): 9 g/kg

ED50: 0.23 g/kg

Product as a whole:

CARCINOGENICITY: None known

SENSITIZATION EFFECTS: None known

REPRODUCTIVE EFFECTS: None known

SYNERGISTIC EFFECTS: None known

SECTION XII - ECOLOGICAL INFORMATION

No concerns at relevant environmental levels.

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method: DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH FEDERAL, STATE/PROVINCIAL AND LOCAL REGULATIONS. Product contains biodegradable surfactant. If permitted, flush small quantities down sewer drain with large excess of water or dispose of at landfill.

Household Use: Household quantities may be disposed of via sewer.

Industrial Setting: Dry product can be landfilled if local restrictions allow.

SECTION XIV - TRANSPORT INFORMATION

Ground Transport (DOT): The finished packaged product is non hazardous under DOT.

Air Transport (IATA): The finished packaged product is not regulated for IATA.

Marine/Water Transport (IMDG): The finished packaged product is not regulated for IMDG.

SECTION XV - ADDITIONAL REGULATORY INFORMATION

All intentionally-added components of this product are listed on the US TSCA Inventory.

This product is not subject to warning labeling under California Proposition 65.

All ingredients are CEPA approved for import to Canada by Procter & Gamble.

This product has been classified in accordance with the hazard criteria of the Canadian *Controlled Products Regulations* and the MSDS contains all information required by the *Controlled Products Regulations*.

SECTION XVI - OTHER INFORMATION		
P&G Hazard Rating:	Health: 1 Flammability: 0 Reactivity: 0	4=EXTREME 3=HIGH 2=MODERATE 1=SLIGHT 0=NOT SIGNIFICANT
*N/A. - Not Applicable *N/K. - Not Known		
Data supplied is for use only in connection with occupational safety and health.		
The information contained herein has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. The information relates to the specific material designated herein, and does not relate to the use in combination with any other material or any other process. Procter & Gamble assumed no responsibility for injury to the recipient or third persons, for any damage to any property resulting from misuse of the controlled product.		

MATERIAL SAFETY DATA SHEET

ECOSMART® Commercial CRAWLING INSECT KILLER

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard 29 CFR 1910.1200, the EU Directive, 91/155/EEC and other regulatory requirements.

1. COMPANY & PRODUCT IDENTIFICATION

Product: EcoSMART Commercial Crawling Insect Killer (DR-G-098)

Manufacturer: EcoSMART Technologies, Inc.
3600 Mansell Road, Suite 150, Alpharetta, GA 30022

For General Information: (888) 326-SAFE (9am to 5pm EST)

Emergency Telephone Number:
InfoTrac Chemical Response System (800) 535-5053 (24 hours)

2. INGREDIENTS

Essential Oils Blend (active ingredient)	Proprietary Solvent Blend (inert ingredient)
% by weight: 8%	% by weight: 40%
CAS: N.A.	CAS: N.A.
Exposure Limits: None established	Exposure Limits: None established
Carbon Dioxide propellant (inert ingredient)	Water (inert ingredient)
% by weight: 3.5%	% by weight: to 100%
CAS: 124-38-9	CAS: 7732-18-5
Exposure Limits: TWA: 5000ppm	Exposure Limits: None established
Emulsifier (inert ingredient)	
% by weight: 0.2%	
CAS: 8002-43-5	
Exposure Limits: None established	

3. HAZARDS IDENTIFICATION

Potential Health Effects: May be harmful if swallowed or inhaled. May cause eye irritation. Avoid breathing spray mist. Avoid contact with skin, eyes or clothing.

Flammable: Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperature above 130°F may cause bursting.

4. FIRST AID MEASURES

CAUTION: Avoid contact with eyes.

IF IN EYES: Flush with plenty of water.

IF ON SKIN: Wash with soap and water.

IF INHALED: Move exposed person(s) to fresh air.

IF INGESTED: Rinse mouth out with water. Do not induce vomiting. Seek medical attention if necessary.

5. FIRE FIGHTING MEASURES

Flashpoint: Not tested

Flammable Limits: Not tested

Extinguishing Media: Use Foam, Carbon Dioxide, or Dry Chemical extinguishers.

Fire and Explosion Hazards: Container contents are under pressure. Exposure to temperatures above 130°F could cause bursting.

Special Fire Fighting Procedures: Keep containers cool to prevent bursting. Firefighters should have eye protection and wear self-contained breathing apparatus.

Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, smoke, fumes, and unburned hydrocarbons and terpenes.

6. SPILL/LEAK PROCEDURES

Should the container begin to leak (if accidentally punctured for example) allow the contents to discharge completely in a well-ventilated area. When the contents have been completely discharged, absorb any liquid residue with an inert absorbent material and dispose of the empty container and absorbent material in accordance with local ordinances. Components of this product are not considered EPA hazardous wastes.

7. HANDLING & STORAGE

Store in a cool, dry place. Do not use or store near heat, flames or hot surfaces. Do not smoke while using product. Do not use product on or in electrical equipment. Foods and eating utensils should be removed or covered when this product is used. Food processing equipment should be covered and/or wiped down after use. No smoking or eating in the product handling area.

Disposal: When container is empty, recycle if available. If recycling is not available, wrap and place the empty container in a trash collector. Keep out of the reach of children and animals.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Ventilation: Local exhaust ventilation is not required.

Respiratory Protection: Not required with adequate ventilation.

Eye Protection: Not required. Safety glasses are recommended during volumetric treatments.

Gloves: Not required.

Other Protective Equipment: Not required.

9. PHYSICAL PROPERTIES

Appearance: White liquid

Specific Gravity (water =1): 0.98 g/ml

Odor: sweet floral / minty scent

10. STABILITY & REACTIVITY

Chemical Stability: Stable

Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Rat Acute Oral: Not Determined

Acute effects from Overexposure: The individual components of this product are known to have low oral and dermal toxicity. This mixture is expected to have a similar toxicological profile. Prolonged contact with the skin may cause irritation, and contact with the eyes may cause eye irritation. Inhalation of the vapor may cause irritation of nasal passages and/or dizziness. Ingestion of this product could result in irritation of the gastrointestinal tract, headache or nausea.

Chronic Effects from Overexposure: No data is available.

Carcinogenicity: NTP: No OSHA: No

12. ENVIRONMENTAL INFORMATION

While specific data regarding toxicity to fish or other aquatic organisms is not available for this product, care should always be taken to prevent pesticides from entering aquifers.

13. DISPOSAL

The aerosol container is not refillable. When container is empty, recycle if available. If recycling is not possible, wrap the container and dispose of with ordinary trash.

14. TRANSPORTATION INFORMATION

Proper Shipping Name: Consumer Commodity

DOT Hazard Class: ORM-D

15. REGULATORY INFORMATION

NFPA Ratings: Health - 1 Fire - 1 Reactivity - 0 Special - none

SARA Title III: This product does not contain any ingredients subject to Section 313 (40 CFR 372) reporting requirements.



EcoSMART Technologies, Inc.
3600 Mansell Road, Suite 150, Alpharetta, GA 30022
Phone: (888) 326-7233

**MATHESON**

ask. . .The Gas Professionals™

Safety Data Sheet

Material Name: 25% Oxygen in Argon, Gas Mix

SDS ID: 00244256

Section 1 - IDENTIFICATION

Manufacturer Information

MATHESON TRI-GAS, INC.

150 Allen Road, Suite 302

Basking Ridge, NJ 07920

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

Product Identifier: 25% Oxygen in Argon, Gas Mix**Product Use**

industrial

Restrictions on Use

None known.

Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Oxidizing gas, Category 1

Gas under pressure, Compressed gas

GHS LABEL ELEMENTS**Symbol(s)****Signal Word**

DANGER

Hazard Statement(s)

May cause or intensify fire; oxidizer

Contains gas under pressure; may explode if heated

Precautionary Statement(s)**Prevention**

Keep away from clothing and other combustible materials. Keep reduction valves free from grease and oil.

Response

In case of fire: Stop leak if safe to do so.

Storage

Store in a well-ventilated place. Protect from sunlight.

Other Hazards which do not Result in Classification

May cause asphyxia. May cause frostbite upon sudden release of compressed gas.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS#	Component	Percent
7440-37-1	Argon, Compressed	75

Safety Data Sheet

Material Name: 25% Oxygen in Argon, Gas Mix

SDS ID: 00244256

7782-44-7	Oxygen	25
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* * *Section 4 - FIRST AID MEASURES* * *

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Skin

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If a large amount is swallowed, get medical attention.

Note to Physicians

For inhalation, consider oxygen.

Symptoms: Immediate

frostbite, suffocation

Symptoms: Delayed

No information on significant adverse effects.

* * *Section 5 - FIRE FIGHTING MEASURES* * *

See Section 9 for Flammability Properties

Specific Hazards Arising from the Chemical

Negligible fire hazard. May ignite or explode on contact with combustible materials. Containers may rupture or explode if exposed to heat.

Extinguishing Media

carbon dioxide, regular dry chemical

Unsuitable Extinguishing Media

None known.

Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Use extinguishing agents appropriate for surrounding fire. Cool containers with water. Apply water from a protected location or from a safe distance.

* * *Section 6 - ACCIDENTAL RELEASE MEASURES* * *

Personal Precautions

Wear personal protective clothing and equipment, see Section 8.

Environmental Precautions

Avoid release to the environment.

Methods for Containment

Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.

Safety Data Sheet

Material Name: 25% Oxygen in Argon, Gas Mix

SDS ID: 00244256

Cleanup Methods

Stop leak if possible without personal risk. Avoid contact with combustible materials.

Section 7 - HANDLING AND STORAGE

Handling Procedures

Wash thoroughly after handling.

Storage Procedures

Store and handle in accordance with all current regulations and standards. Store in a well-ventilated area. Protect from sunlight. See original container for storage recommendations. Keep separated from incompatible substances.

Incompatibilities amines, bases, combustible materials, halo carbons, metal salts, metals, oxidizing material, reducing agents

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Argon, Compressed (7440-37-1)

ACGIH: Simple asphyxiant (See Appendix F: Minimal Oxygen Content)

Component Biological Limit Values

There are no biological limit values for any of this product's components.

Engineering Controls

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles with a faceshield. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Protective Clothing

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

Glove Recommendations

For the gas: Protective gloves are not required, but recommended. For the liquid: Wear insulated gloves.

Respiratory Protection

The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

At any detectable concentration -

Any self-contained breathing apparatus that has a full face piece and is operated in a pressure-demand or other positive pressure mode.

Any supplied-air respirator with a full face piece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained apparatus operated pressure-demand or other positive-pressure mode.

Escape-

Any air purifying full-face piece respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the compound of concern.

Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations or Immediately Dangerous to Life or Health-

Safety Data Sheet

Material Name: 25% Oxygen in Argon, Gas Mix

SDS ID: 00244256

Any supplied-air respirator with a full face piece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full face piece and is operated in a pressure-demand or other positive-pressure mode.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	gas	Appearance:	Colorless gas
Color:	colorless	Physical Form:	compressed gas
Odor:	odorless	Odor Threshold:	Not available
pH:	Not available	Melting/Freezing Point:	Not available
Boiling Point:	Not available	Flash Point:	non-flammable
Decomposition:	Not available	Evaporation Rate:	Not available
LEL:	Not available	UEL:	Not available
Vapor Pressure:	Not available	Vapor Density (air = 1):	Not available
Specific Gravity (water=1):	Not available	Water Solubility:	Not available
Log KOW:	Not available	Coeff. Water/Oil Dist:	Not available
Auto Ignition:	Not available	Viscosity:	Not available

Section 10 - STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with combustible materials. Containers may rupture or explode if exposed to heat.

Possibility of Hazardous Reactions

Will not polymerize.

Incompatible Materials

amines, bases, combustible materials, halo carbons, metal salts, metals, oxidizing material, reducing agents

Decomposition Products

miscellaneous decomposition products

Section 11 - TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Immediate Effects

frostbite, suffocation

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data

No animal testing data available for skin or eyes.

Safety Data Sheet

Material Name: 25% Oxygen in Argon, Gas Mix

SDS ID: 00244256

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Respiratory Sensitizer

No data available.

Dermal Sensitizer

No data available.

Carcinogenicity

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, OSHA or DFG.

Mutagenic Data

No data available for the mixture.

RTECS Mutagenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Reproductive Effects Data

No data available for the mixture.

RTECS Reproductive Effects

The components of this material have been reviewed, and RTECS publishes the following endpoints:

Oxygen (7782-44-7)

10 pph Inhalation Mouse TCLo (24 hour, pregnant 8 day(s)); 10 pph Inhalation Rat TCLo (9 hour, pregnant 22 day(s)); 10 pph Inhalation Rat TCLo (12 hour, pregnant 22 day(s)); 12 pph Inhalation Woman TCLo (10 minute(s), pregnant 26-39 week)

Tumorigenic Data

No data available for the mixture.

RTECS Tumorigenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Specific Target Organ Toxicity - Single Exposure

No data available.

Specific Target Organ Toxicity - Repeated Exposure

No data available.

Aspiration Hazard

Not applicable.

Medical Conditions Aggravated by Exposure

None known.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

Persistence and Degradability

No data available for the mixture.

Bioaccumulative Potential

No data available for the mixture.

Mobility in Environmental Media

No data available for the mixture.

Safety Data Sheet

Material Name: 25% Oxygen in Argon, Gas Mix

SDS ID: 00244256

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262.
Hazardous Waste Number(s): D001.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information

Shipping Name: Compressed gas, oxidizing, n.o.s. (Contains: Argon, Compressed, Oxygen)

UN/NA #: UN3156 **Hazard Class:** 2.2

Required Label(s): 2.2, 5.1

IMDG Information

Shipping Name: Compressed gas, oxidizing, n.o.s. (Contains: Argon, Compressed, Oxygen)

UN #: UN3156 **Hazard Class:** 2.2

Required Label(s): 2.2, 5.1, +

Section 15 - REGULATORY INFORMATION

Component Analysis

U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA 311/312 Hazardous Categories

Acute Health: Yes **Chronic Health:** No **Fire:** Yes **Pressure:** Yes **Reactive:** No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Argon, Compressed	7440-37-1	No	Yes	Yes	Yes	Yes
Oxygen	7782-44-7	No	Yes	No	Yes	Yes

Not regulated under California Proposition 65

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
Argon, Compressed	7440-37-1	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
Oxygen	7782-44-7	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

NFPA Ratings: Health: 2 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Safety Data Sheet

Material Name: 25% Oxygen in Argon, Gas Mix

SDS ID: 00244256

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other Information

Matheson Tri-Gas, Inc. makes no express or implied warranties, guarantees or representations regarding the product or the information herein, including but not limited to any implied warranty or merchantability or fitness for use. Matheson Tri-Gas, Inc. shall not be liable for any personal injury, property or other damages of any nature, whether compensatory, consequential, exemplary, or otherwise, resulting from any publication, use or reliance upon the information herein.

End of Sheet 00244256

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 264.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Congo Red Solution

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard Class: Carcinogenicity (Category 1). May cause cancer (H350). Obtain special instructions before use (P201). Do not handle until all safety precautions have been read and understood (P202). Use personal protective equipment as required (P281). A probable human carcinogen (IARC-2A).

Hazard Class: Reproductive toxicity (Category 2). May damage fertility or the unborn child (H361). Obtain special instructions before use (P201).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Congo red	573-58-0	$C_{32}H_{22}N_6Na_2O_6S_2$	696.67	1% or less
Water	7732-18-5	H_2O	18.00	99%

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators and stains.
Keep container tightly closed. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling. Will stain skin, clothing, and surfaces.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Orange-red liquid. Odorless.

Absorbance maximum: 497nm

Biological stain.

pH indicator: 3.0 blue to 5.0 red.

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

ORL-RAT LD₅₀: N.A.

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014



MATERIAL SAFETY DATA SHEET

Conoco Universal Gear Lubricant 80W-90

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Conoco Universal Gear Lubricant 80W-90

Product Code: 7650

Synonyms: Conoco MSDS#LUBC0415

Intended Use: Gear lubricant

Chemical Family: Petroleum Hydrocarbon

Responsible Party: Conoco Lubricants
A Division of ConocoPhillips
600 N. Dairy Ashford
Houston, TX 77079-1175

For Additional MSDSs 800-762-0942

Technical Information: 800-435-7761

The intended use of this product is indicated above. If any additional use is known, please contact us at the Technical Information number listed.

EMERGENCY OVERVIEW

24 Hour Emergency Telephone Numbers:

Spill, Leak, Fire or Accident

California Poison Control System: (800) 356-3129

Call CHEMTREC

North America: (800)424-9300

Others: (703)527-3887 (collect)

Health Hazards/Precautionary Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Physical Hazards/Precautionary Measures: Keep away from all sources of ignition.

Appearance: Dark amber

Physical form: Liquid

Odor: Characteristic Petroleum

NFPA Hazard Class:

Health: 1 (Slight)

Flammability: 1 (Slight)

Reactivity: 0 (Least)

HMIS Hazard Class

Health: 1 (Slight)

Flammability: 1 (Slight)

Physical Hazard: 0 (Least)

2. COMPOSITION/INFORMATION ON INGREDIENTS

No hazardous components identified per 29 CFR 1910.1200.

OTHER COMPONENTS

% VOLUME

EXPOSURE GUIDELINE

Limits

Agency

Type

Lubricant Base Oil (Petroleum)

92-94

(See: Oil Mist, If Generated)

CAS# Various

Additives
CAS# Proprietary

6-8 Not Established

REFERENCE**EXPOSURE GUIDELINE**

	<u>Limits</u>	<u>Agency</u>	<u>Type</u>
Oil Mist, If Generated	5 mg/m ³	ACGIH	TWA
CAS# None	10 mg/m ³	ACGIH	STEL
	5 mg/m ³	OSHA	TWA
	2500 mg/m ³	NIOSH	IDLH
	5 mg/m ³	NOHSC	TWA

The base oil for this product can be a mixture of any of the following highly refined petroleum streams:
 CAS 64741-88-4; CAS 64741-89-5; CAS 64741-96-4; CAS 64741-97-5; CAS 64742-01-4; CAS 64742-52-5; CAS
 64742-53-6; CAS 64742-54-7; CAS 64742-55-8; CAS 64742-56-9; CAS 64742-57-0; CAS 64742-62-7; CAS
 64742-63-8; CAS 64742-65-0; CAS 72623-85-9; CAS 72623-86-0; CAS 72623-87-1

Note: State, local or other agencies or advisory groups may have established more stringent limits.
 Consult an industrial hygienist or similar professional, or your local agencies, for further information.

1%=10,000 PPM.

All components are listed on the TSCA inventory.

3. HAZARDS IDENTIFICATION**Potential Health Effects:**

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness, and a burning sensation. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin leading to dermatitis (inflammation). No harmful effects from skin absorption are expected.

Inhalation (Breathing): No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Ingestion (Swallowing): No harmful effects expected from ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea and diarrhea.

Cancer: Inadequate evidence available to evaluate the cancer hazard of this material. See Section 11 for carcinogenicity information of individual components, if any.

Target Organs: No data available for this material.

Developmental: No data available for this material.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Wipe material from skin and remove contaminated shoes and clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Note To Physicians: High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury.

5. FIRE FIGHTING MEASURES

Flammable Properties:

Flash Point:	410°F/210°C (COC)
OSHA Flammability Class:	Not applicable
LEL/UEL%:	No Data
Autoignition Temperature:	No Data

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. ACCIDENTAL RELEASE MEASURES

This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Do not wear contaminated clothing or shoes. Use good personal hygiene practices.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional engineering controls may be required.

Personal Protective Equipment (PPE):

Respiratory: A NIOSH certified air purifying respirator with a Type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2).

Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a NIOSH approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode if there is potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact and possible irritation (see manufacturers literature for information on permeability).

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Suggestions for the use of specific protective materials are based on readily available published data. Users should check with specific manufacturers to confirm the performance of their products.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance: Dark amber

Physical State: Liquid

Odor: Characteristic Petroleum

pH: Not applicable

Vapor Pressure (mm Hg): <1

Vapor Density (air=1): >1

Boiling Point/Range: >555°F / >291°C

Freezing/Melting Point: No Data

Solubility in Water: Negligible

Specific Gravity: 0.88

Percent Volatile: Negligible

Evaporation Rate (nBuAc=1): <1

Viscosity: 14.3 cSt @100°C / 137 cSt @40°C

Bulk Density: 7.4 lbs/gal

Flash Point: 410°F / 210°C (COC)

Flammable/Explosive Limits (%): No Data

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions To Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: Combustion can yield carbon, nitrogen, sulfur and phosphorus oxides, hydrogen sulfide and some metallic oxides.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Lubricant Base Oil (Petroleum) (CAS# Various)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteristics. None of the oils used are listed as a carcinogen by NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Not evaluated at this time

13. DISPOSAL CONSIDERATIONS

This material under most intended uses would become used oil due to contamination by physical or chemical impurities. RECYCLE ALL USED OIL. While being recycled, used oil is regulated by 40 CFR 279. Use resulting in chemical or physical change or contamination may also subject it to regulation as hazardous waste. Under federal regulations, used oil is a solid waste managed under 40 CFR 279. However, in California, used oil is managed as hazardous waste until tested to show it is not hazardous. Consult state and local regulations regarding the proper handling of used oil. In the case of used oil, the intent to discard it may cause the used oil to be regulated as hazardous waste.

Contents should be completely used and containers emptied prior to discard. Rinsate may be considered a RCRA hazardous waste and must be disposed of with care and in compliance with federal, state and local regulations. Large empty containers, such as drums, should be returned to the distributor or a drum reconditioner. To assure proper disposal of small empty containers, consult with state and local regulations and disposal authorities.

14. TRANSPORT INFORMATION

DOT Shipping Description: Not classified as hazardous

15. REGULATORY INFORMATION

EPA SARA 311/312 (Title III Hazard Categories):

Acute Health: No
Chronic Health: No
Fire Hazard: No
Pressure Hazard: No
Reactive Hazard: No

SARA 313 and 40 CFR 372:

This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

--None--

California Proposition 65:

Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

--None Known--

Carcinogen Identification:

This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any.

EPA (CERCLA) Reportable Quantity:

--None--

Canada - Domestic Substances List: Listed

WHMIS Class:

Not regulated

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

Issue Date: 02/20/03

Previous Issue Date: 07/30/02

Product Code: 7650

Revised Sections: Format change

MSDS Number: 775809

Status: Final

Disclaimer of Expressed and Implied Warranties:

The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. **HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE.** No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.



Safety Data Sheet

Spartan Chemical Company, Inc.

Revision Date: 29-Jul-2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: CONSUME
Product Number: 3097 , 3197
Recommended Use: Cleaning agent
Uses Advised Against: For Industrial and Institutional Use Only

Manufacturer/Supplier: Spartan Chemical Company, Inc.
1110 Spartan Drive
Maumee, Ohio 43537 USA
800-537-8990 (Business hours)
www.spartanchemical.com

24 Hour Emergency Phone Numbers:

Medical Emergency/Information: 888-314-6171
Transportation/Spill/Leak: CHEMTREC 800-424-9300

2. HAZARDS IDENTIFICATION

GHS Classification

Serious Eye Damage/Eye Irritation: Category 2A

GHS Label Elements

Signal Word:

Warning

Symbols:



Hazard Statements:

Causes serious eye irritation

Precautionary Statements:

Prevention:

Wash hands and any exposed skin thoroughly after handling.
Wear protective gloves
Wear eye / face protection

Response:

-Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. See Safety Data Sheet Section 4: "FIRST AID MEASURES" for additional information.

-Specific Treatment:

Storage:

Not Applicable

Disposal:

Not Applicable

Hazards Not Otherwise Classified: Not Applicable

Other Information:

- May be harmful if swallowed.
- May cause skin irritation.
- Inhalation of vapors or mist may cause respiratory irritation.
- This product contains living bacterial spores. Avoid contact with open wounds, broken skin or mucus membranes.
- Keep out of reach of children.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
water	7732-18-5	60-100
alcohol ethoxylate	68439-46-3	1-5
bacterial spores	PROPRIETARY	<0.1

Specific chemical identity and/or exact percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

-Eye Contact:	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
-Skin Contact:	Wash with soap and water. If skin irritation occurs: Get medical attention. Apply a topical antiseptic agent to open wounds or broken skin.
-Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison control center or physician if you feel unwell.
-Ingestion:	Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if you feel unwell.
Note to Physicians:	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Product does not support combustion, Use extinguishing agent suitable for type of surrounding fire
Specific Hazards Arising from the Chemical:	Dried product is capable of burning. Combustion products are toxic.
Hazardous Combustion Products:	May include Carbon monoxide Carbon dioxide and other toxic gases or vapors.
Protective Equipment and Precautions for Firefighters:	Wear MSHA/NIOSH approved self-contained breathing apparatus (SCBA) and full protective gear. Cool fire-exposed containers with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.
Environmental Precautions:	Do not rinse spill onto the ground, into storm sewers or bodies of water.
Methods for Clean-Up:	Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

7. HANDLING AND STORAGE

Advice on Safe Handling:	Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.
Storage Conditions:	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:	None established.
--------------------------------------	-------------------

Engineering Controls:	Provide good general ventilation. If work practices generate dust, fumes, gas, vapors or mists which expose workers to chemicals above the occupational exposure limits, local exhaust ventilation or other engineering controls should be considered.
Personal Protective Equipment	
Eye/Face Protection:	Wear splash goggles.
Skin and Body Protection:	Wear rubber or other chemical-resistant gloves.
Respiratory Protection:	Not required with expected use. If occupational exposure limits are exceeded or respiratory irritation occurs, use of a NIOSH/MSHA approved respirator suitable for the use-conditions and chemicals in Section 3 should be considered.
General Hygiene Considerations:	Wash hands and any exposed skin thoroughly after handling. See 29 CFR 1910.132-138 for further guidance.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State:	Liquid
Color:	Green
Odor:	Pleasant
pH:	8.0-9.0
Melting Point / Freezing Point:	No information available.
Boiling Point / Boiling Range:	100 °C / 212 °F
Flash Point:	> 100 °C / > 212 °F ASTM D56
Evaporation Rate:	< 1 (BuAc = 1)
Flammability (solid, gas)	No information available.
Upper Flammability Limit:	No information available.
Lower Flammability Limit:	No information available.
Vapor Pressure:	No information available.
Vapor Density:	No information available.
Specific Gravity:	1.00
Solubility(ies):	Soluble in water
Partition Coefficient:	No information available.
Autoignition Temperature:	No information available.
Decomposition Temperature:	No information available.
Viscosity:	No information available.

10. STABILITY AND REACTIVITY

Reactivity:	This material is considered to be non-reactive under normal conditions of use.
Chemical Stability:	Stable under normal conditions.
Possibility of Hazardous Reactions:	Not expected to occur with normal handling and storage.
Conditions to Avoid:	Extremes of temperature and direct sunlight.
Incompatible Materials:	Strong oxidizing agents. Strong acids.
Hazardous Decomposition Products:	May include carbon monoxide, carbon dioxide (CO ₂) and other toxic gases or vapors.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:	Eyes, Skin, Ingestion, Inhalation.
Symptoms of Exposure:	
-Eye Contact:	Pain, redness, swelling of the conjunctiva and blurred vision.
-Skin Contact:	Drying of the skin.
-Inhalation:	Nasal discomfort and coughing.
-Ingestion:	Pain, nausea, vomiting and diarrhea.
Immediate, Delayed, Chronic Effects	
Product Information:	Data not available or insufficient for classification.

Numerical Measures of Toxicity

The following acute toxicity estimates (ATE) are calculated based on the GHS document.

ATEmix (oral): 46548 mg/kg
ATEmix (dermal): 67559 mg/kg

Component Acute Toxicity Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
water 7732-18-5	> 90 mL/kg (Rat)	Not Available	Not Available
alcohol ethoxylate 68439-46-3	= 1378 mg/kg (Rat)	> 2 g/kg (Rabbit)	Not Available

Carcinogenicity: No components present at 0.1% or greater are listed as to being carcinogens by ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Persistence and Degradability: No information available.

Bioaccumulation: No information available.

Other Adverse Effects: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal of Wastes: Dispose of in accordance with federal, state and local regulations.

Contaminated Packaging: Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT: Not Regulated

Proper Shipping Name: Non Hazardous Product

Special Provisions: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Check with a trained hazardous materials transportation expert for information specific to your situation.

IMDG: Not Regulated

Proper Shipping Name: Non Hazardous Product

15. REGULATORY INFORMATION

TSCA Status: (Toxic Substance Control Act Section 8(b) Inventory)

All chemical substances in this product are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

SARA 313

This product does not contain listed substances above the "de minimus" level

SARA 311/312 Hazard Categories

Acute Health Hazard: Yes

Chronic Health Hazard: No

Fire Hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

California Proposition 65

This product is not subject to warning requirements under California Proposition 65.

16. OTHER INFORMATION

NFPA	Health Hazards: 1	Flammability: 0	Instability: 0	Special: N/A
HMIS	Health Hazards: 1	Flammability: 0	Physical Hazards: 0	

Revision Date: 29-Jul-2015
Reasons for Revision: Section 14 and 15

Disclaimer:

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Material Safety Data Sheet

Section 1 Product and Company Identification

Product Name:

COOL GEL

Revision #: 1.8

Date Prepared: November 3, 1998

Date Revised: February 26, 2013

Manufacturer:

LA-CO INDUSTRIES, Inc. *Markal Co.*

1201 Pratt Blvd.

Elk Grove Village, IL, USA 60007-5746

Information Telephone: 847-956-7600

Emergency Telephone: Call CHEMTREC

USA 800-424-9300

International (Call Collect) 1-703-527-3887

Chemical Formula: Mixture

CAS No.: Not Applicable. Derivation: Not Applicable.

Synonyms: Not Applicable.

General Use: Heat Dissipating Gel

Supplier/Importer:

Section 2 Composition/Information on Ingredients

Ingredient

CAS No.

%

No Hazardous ingredients according to the U.S. OSHA Hazard Communication Standard 29 CFR 1910.1200, Canadian WHMIS regulations, British CHIP2 regulation 6, and Australian Regulations for the Control of Workplace Hazardous Substances.

Section 3 Hazards Identification

EMERGENCY OVERVIEW: No adverse effects expected.

POTENTIAL HEALTH EFFECTS

Primary Exposure Routes:

Acute Effects

Eyes: Not applicable.

Skin: Not applicable.

Ingestion: Not applicable.

Inhalation: Not applicable.

Chronic Effects

Eyes: Not applicable.

Skin: Not applicable.

Ingestion: Not applicable.

Inhalation: Not applicable

Carcinogenicity: Not Applicable.

Target Organ Effects: Not Applicable.

Medical Conditions Aggravated by Long-Term

Exposure: Not Determined.

Other Information: Not Applicable..

Section 4

First Aid

Eye Contact: Not applicable.

Skin Contact: Not applicable.

Ingestion: Not applicable.

Inhalation: Not applicable.

Other Information: Not applicable.

Section 5

Fire Fighting Measures

Flash Point (method): Not applicable.

Autoignition Temperature: Not applicable.

LEL: Not applicable. **UEL:** Not applicable.

Product Name:

COOL GEL

Revision #: 1.8

Date Prepared: November 3, 1998

Date Revised: February 26, 2013

Flammability Classification: Not applicable.

Extinguishing Media: Not applicable.

Hazardous Combustion Products: Not applicable.

Unusual Fire or Explosion Hazards: Not applicable.

Fire-Fighting Instructions/Equipment: Not applicable.

Section 6 Accidental Release Measures

Use recommended personal protective equipment (see Section 8). Wipe or scoop up.

Section 7 Handling and Storage

Handling Precautions: Not applicable.

Storage Requirements: Not applicable.

Section 8 Exposure Controls/Personal Protection

Eye/Face Protection: Suitable for related activities where this product is used.

Skin/Hand Protection: Suitable for related activities where this product is used.

Respiratory Protection: Suitable for related activities where this product is used.

Other Equipment: Suitable for related activities where this product is used.

Engineering Controls: Suitable for related activities where this product is used.

Administrative Controls: Users of this product must be properly trained and qualified in its use.

Other Information: None Known.

Section 9 Physical and Chemical Properties

Appearance/Physical State: Clear gel.

Odor: None.

Odor Threshold (ppm): Not applicable.

Specific Gravity (H₂O = 1): 1

pH: 7

Melting Point: 32°F / 0°C

Boiling Point: 212°F / 100°C

Vapor Pressure (mm Hg at 20°C): Negligible

Vapor Density (Air = 1): <1

Evaporation Rate (n-BuAc=1): <<1

V.O.C.: 0%(w/w), 0%(v/v), 0 lbs./gal.(U.S.), 0 kg/l, 0 g/l (SCAQMD)

Solubility - Water: Soluble

- Fat: Insoluble

Coefficient of Water/Oil Solubility: >>1

Partition Coefficient (n-octanol/water): <<1

Flash Point (method): (see Section 5)

Autoignition Temperature: (see Section 5)

Flammability Classification: (see Section 5)

Unusual Fire or Explosion Hazards: (see Section 5)

Oxidizing Properties: Not Applicable.

Other Information: None.

Section 10 Stability and Reactivity

Chemical Stability: Stable

Hazardous Polymerization: Will Not Occur

Conditions to Avoid: None Known.

Chemicals to Avoid: Any water reactive chemicals.

Hazardous Decomposition Products (non-thermal): Not Determined.

Section 11 Toxicological Information

Product Name:

COOL GEL

Revision #: 1.8

Date Prepared: November 3, 1998

Date Revised: February 26, 2013

Sensitization to Product: Not Applicable.

Irritancy of Product: Not applicable.

Reproductive Toxicity: Not Applicable.

Teratogenicity: Not Applicable.

Mutagenicity: Not Applicable.

Further hazard information, if applicable, may be found in Section 3. Toxicological information regarding individual ingredients, if applicable, may be found in Section 2.

Section 12

Ecological Information

Mobility: Not applicable.

Degradability: Not applicable.

Accumulation: Not applicable.

Ecotoxicity: Not applicable.

Other Adverse Effects: Not applicable.

Section 13

Disposal Considerations

Dispose of in accordance with all applicable regulations.

The conditions of handling, storage, and use of this product are beyond our control and may be beyond our knowledge. For this and other reasons, LA-CO Industries, Inc. does not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

Section 14

Transport Information

D.O.T. (U.S.)

Proper Shipping Name: Not Regulated.

Hazard Class or Division: Not Regulated.

Hazard Label: Not Regulated.

I.D. Number: Not Regulated.

TDG (Canada): Not Regulated.

IATA: Not Regulated.

ICAO: Not Regulated.

IMO: Not Regulated.

Australian Code for the Transport of Dangerous Goods

Dangerous Goods Class and Subsidiary Risk: Not Regulated.

Section 15

Regulatory Information

Footnotes for Section 2:

- 1 Subject to the reporting requirements of SARA Title III, Section 313.
- 2 Appears on the California Safe Drinking Water and Toxic Enforcement Act (Prop. 65) Substances List.
- 3 Appears on the Massachusetts Substances List.
- 4 Appears on the New Jersey Right-To-Know Hazardous Substances List.
- 5 Appears on the Pennsylvania Hazardous Substances List.
- 6 Appears on the Canadian WHMIS Ingredient Disclosure List.

U.S.A.

OSHA Hazard Status: This product is not considered to be hazardous as defined by the U.S. OSHA HCS (29 CFR 1910.1200).

EPA SARA sec. 311/312 Hazard Categories: Not Applicable.

Toxic Substances Control Act (TSCA): All ingredients contained in this product are listed on the U.S. EPA TSCA Chemical Substance Inventory.

HMIS Rating: Health 0, Flammability 0, Reactivity 0

NFPA Rating: Health 0, Flammability 0, Reactivity 0

Product Name:

COOL GEL

Revision #: 1.8

Date Prepared: November 3, 1998

Date Revised: February 26, 2013

CANADA

WHMIS Status: This product is not considered to be hazardous as defined by Canadian WHMIS Controlled Products Regulations.

WHMIS Rating: None.

WHMIS Risk Phrases: None.

WHMIS Precautionary Statements: None.

Domestic Substances List (DSL): All ingredients contained in this product are listed on the Canadian EPA (CEPA) Domestic Substances List (DSL).

E.U.

European Inventory of Existing Chemical Substances (EINECS): All ingredients contained in this product are listed on the European Inventory of Existing Chemical Substances (EINECS).

Categories of Danger (Labeling Information): None.

Risk (R) Phrases: None.

Safety (S) Phrases: None.

AUSTRALIA

Worksafe Australia Status: This product is not classified as hazardous according to criteria of Worksafe Australia.

HAZCHEM Code: None allocated.

Poisons Schedule Number: None allocated.

Further regulatory information regarding individual ingredients, if applicable, may be found in Section 2.

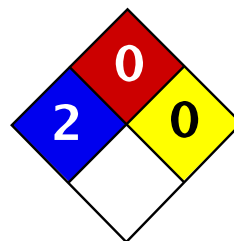
This product has been classified in accordance with the hazard criteria of the U.S. OSHA Hazard Communication Standard, the Canadian WHMIS Controlled Products Regulations, the British CHIP2 regulation 6, and the Australian NMRCWHS. This MSDS contains the information required by the above regulations and conforms to ANSI Z400.1-1993.

Section 16

Other Information

MSDS Prepared By: Director of Chemical Safety

The information contained herein is based on data available to us and is accurate and reliable to the best of our knowledge and belief. However, LA-CO Industries, Inc. makes no representations as to its completeness or accuracy. Information is supplied on condition that persons receiving such information will make their own determination as to its suitability for their purposes prior to use. In no event will LA-CO Industries, Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the information contained herein.



Health	2
Fire	0
Reactivity	0
Personal Protection	H

Material Safety Data Sheet

Copper Sulfate solution MSDS

Section 1: Chemical Product and Company Identification

Product Name: Copper Sulfate solution

Catalog Codes: SLC1300

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: No products were found.

CI#: Not applicable.

Synonym: Copper Sulfate Solution

Chemical Name: Not applicable.

Chemical Formula: Not applicable.

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Water	7732-18-5	91.8
Copper sulfate pentahydrate	7758-99-8	8.23

Toxicological Data on Ingredients: Copper sulfate pentahydrate: ORAL (LD50): Acute: 300 mg/kg [Rat.]. DERMAL (LD50): Acute: >2000 mg/kg [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of ingestion, . Non-corrosive for skin.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Copper sulfate pentahydrate].

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

The substance may be toxic to kidneys, liver.

Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human

organs.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances: Non-explosive in presence of open flames and sparks, of shocks, of heat.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Nitromethanes and copper salts spontaneously form explosive materials (Copper sulfate pentahydrate)

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal

container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

Copper sulfate pentahydrate

TWA: 1 (mg/m³) from ACGIH (TLV) [United States] Inhalation

TWA: 0.1 (mg/m³) from OSHA (PEL) [United States] Inhalation

TWA: 1 (mg/m³) from NIOSH Inhalation Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Not available.

Taste: Not available.

Molecular Weight: Not applicable.

Color: Blue.

pH (1% soln/water): Not available

Boiling Point: The lowest known value is 100°C (212°F) (Water).

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: 1.053 (Water = 1)

Vapor Pressure: The highest known value is 2.3 kPa (@ 20°C) (Water).

Vapor Density: The highest known value is 0.62 (Air = 1) (Water).

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol.

Solubility:

Easily soluble in cold water, hot water.

Partially soluble in methanol.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances: Slightly reactive to reactive with metals, alkalis.

Corrosivity: Corrosive in presence of steel.

Special Remarks on Reactivity:

Air Sensitive. Solutions of hyprobromite are decomposed by powerful catalytic action of cupric ions, even as impurities.

Incompatible with finely powdered metals. (Copper sulfate pentahydrate)

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact.

Toxicity to Animals:

Acute oral toxicity (LD50): 3641 mg/kg (Rat.) (Calculated value for the mixture).

Acute dermal toxicity (LD50): 25485 mg/kg (Rat) (Calculated value for the mixture).

Chronic Effects on Humans:

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Copper sulfate pentahydrate].

Contains material which may cause damage to the following organs: kidneys, liver.

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant).

Slightly hazardous in case of ingestion, of inhalation.

Special Remarks on Toxicity to Animals:

Lowest Published Lethal Dose:

LDL [Human] - Route: Oral; Dose: 1088 mg/kg (Copper sulfate pentahydrate)

Special Remarks on Chronic Effects on Humans: May affect genetic material based on animal data (Copper sulfate

pentahydrate)

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects:

Skin: Causes skin irritation.

Eyes: Causes eye irritation.

Inhalation: May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause gastrointestinal tract irritation with nausea, vomiting, diarrhea. May affect metabolism, liver (jaundice), blood (Methemoglobin, hemolytic anemia), urinary system (kidneys), behavior/nervous systems (somnolence, coma), cardiovascular system (lowering of blood pressure)

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation:

If released to soil, copper sulfate may leach to groundwater, be partly oxidized, or bind to humic materials, clay, or hydrous oxides of iron and manganese. In water, it will bind to carbonates as well as humic materials, clay and hydrous oxides of iron and manganese. Copper is accumulated by plants and animals, but it does not appear to biomagnify from plants to animals. This lack of biomagnification appears common with heavy metals. In air, copper aerosols (in general) have a residence time of 2 to 10 days in an unpolluted atmosphere and 0.1 to >4 in a polluted, urban areas. (Copper sulfate pentahydrate)

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:

TSCA 8(b) inventory: Water

SARA 313 toxic chemical notification and release reporting: Copper compounds

CERCLA: Hazardous substances.: Copper sulfate pentahydrate: 10 lbs. (4.536 kg);

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

This product is not classified according to the EU regulations.
Not applicable.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves.

Lab coat.

Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 01:00 AM

Last Updated: 10/10/2005 01:00 AM

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FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 265.00

Revision Date: January 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Copper

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Copper	7440-50-8	Cu	63.55	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

Noncombustible solid in bulk form, but air-born dust may ignite.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Red-brown ductile metal. Also granules, shot, powder, sheet, wire, and foil turnings. Odorless.

Soluble: Nitric acid and hot sulfuric acid

Melting point: 1083 °C

Specific gravity: 8.92

TLV: 1 mg/cubic meter as dust or fume

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, strong acids, bromates, chlorates, iodates, and halogens. Avoid contact with nitric acid, emits toxic fumes of nitrogen oxides.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: N.A.

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

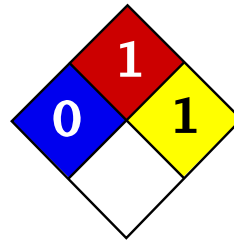
TSCA-listed, EINECS-listed (231-159-6), RCRA code D001.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: January 21, 2014



Health	1
Fire	1
Reactivity	0
Personal Protection	D

Material Safety Data Sheet

Corn oil MSDS

Section 1: Chemical Product and Company Identification

Product Name: Corn oil

Catalog Codes: SLC2668

CAS#: 8001-30-7

RTECS: GM4800000

TSCA: TSCA 8(b) inventory: Corn oil

CI#: Not available.

Synonym: Corn Oil, N.F.

Chemical Name: Corn Oil

Chemical Formula: Not available.

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Corn oil	8001-30-7	100

Toxicological Data on Ingredients: Not applicable.

Section 3: Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at

least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: 392°C (737.6°F)

Flash Points: CLOSED CUP: 254°C (489.2°F).

Flammable Limits: Not available.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Slightly flammable to flammable in presence of heat.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:

Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe gas/fumes/ vapor/spray.

Keep away from incompatibles such as oxidizing agents.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection: Face shield. Synthetic apron. Gloves (impervious).

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

ACHIH - TLV: 10 mg/m³

OSHA - PEL: 15 mg/m³

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Characteristic. (Slight.)

Taste: Not available.

Molecular Weight: Not available.

Color: Yellow. (Light.)

pH (1% soln/water): Not applicable.

Boiling Point: Not available.

Melting Point: -14°C (6.8°F)

Critical Temperature: Not available.

Specific Gravity: 0.918 (Water = 1)

Vapor Pressure: Not available.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Insoluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact.

Toxicity to Animals:

LD50: Oral [Rat] >100 ml/kg

LC50: Not available.

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

No information on adverse reproductive effects on humans found. Corn oil is used a vehicle in many toxicology studies, and is thereby assumed not to exert important effects in its own right. In fact, the majority of reproductive and developmental toxicology studies using corn oil controls do not note adverse effects; however, there have been only a few studies that directly assess this issue, as follows: Adverse reproductive effects (biochemical and metabolic effects and developmental abnormalities on new born) were found when pregnant rats were fed extremely high amounts of corn oil (36,000 mg/kg and 12,500 mg/kg)

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects:

Skin: May cause skin irritation. Low hazard for usual industrial handling.

Eyes: May cause transient irritation.

Inhalation: Low hazard for usual industrial handling

Ingestion: Ingestion of large amounts may cause gastrointestinal (digestive) tract irritation. Expected to be a low ingestion hazard.

Chronic Potential Health Effects: Repeated or prolonged contact may cause allergic reactions in sensitive individuals.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: Not available.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:

Rhode Island RTK hazardous substances: Corn oil

Pennsylvania RTK: Corn oil

TSCA 8(b) inventory: Corn oil

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

This product is not classified according to the EU regulations.

S24/25- Avoid contact with skin and eyes.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 1

Reactivity: 0

Personal Protection: D

National Fire Protection Association (U.S.A.):

Health: 0

Flammability: 1

Reactivity: 1

Specific hazard:

Protective Equipment:

Gloves (impervious).

Synthetic apron.
Not applicable.
Face shield.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 08:17 PM

Last Updated: 11/06/2008 12:00 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT ID : 58-WHT/CLR
PRODUCT CLASS : PAINT, WATER BASE
TRADE NAME : LATEX FIELD MARKING
FORMULA ID : 58-WHT/CLR
MSDS PREPARATION DATE : 09/12/2005

MANUFACTURER IDENTIFICATION:

NAME : INSL-X PRODUCTS CORPORATION
ADDRESS : 308 OLD COUNTY ROAD

EDGEWATER FL 32132
TELEPHONE : 386-428-6461
EMERGENCY CONTACT : CHEMTREC
EMERGENCY TELEPHONE : (800) 424-9300

SECTION 2 - COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

1

CAS# 13463-67-7
TITANIUM DIOXIDE
PCT BY WT: .5 - 5
EXPOSURE LIMIT:
ACGIH TLV/TWA: 10 mg/cu m (Total Dust) - TWA
OSHA PEL/TWA: 10 mg/cu m (Total Dust) - TWA
LD50: Oral (Rat)- >7500 mg/kg (TiO2)

2 GROUND LIMESTONE

CAS# 1317-65-3
CALCIUM CARBONATE
PCT BY WT: 5 - 10
EXPOSURE LIMIT:
ACGIH TLV/TWA: 2 mg/cu m (Respirable Dust)
OSHA PEL/TWA: 15 mg/cu m (Total Dust)

3 CALCINED KAOLIN

CAS# 1332-58-7
ALUMINIUM SILICATE
PCT BY WT: 15 - 20
EXPOSURE LIMIT:
ACGIH TLV/TWA: 2 mg/cu m (Respirable fraction)
OSHA PEL/TWA: 10 mg/cu m (Total dust)

This product contains no reported carcinogens or suspected carcinogens
according to the information provided in Section 3 of this MSDS.

This product contains pigments, which may become a dust nuisance when
removed by abrasive blasting, sanding, or grinding.

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SECTION 3 - HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYES: Primary irritant.

SKIN: May irritate skin.

INHALATION: With poor ventilation, vapor or spray mist may irritate
respiratory mucous membranes, causing headache & nausea.

INGESTION: N/A

ROUTE(S) OF EXPOSURE

Exposure may be inhalation and/or skin or eye contact, depending on
conditions of use.

CARCINOGENICITY

No ingredient in this product is an IARC, NTP or OSHA listed
carcinogen.

CHRONIC EFFECTS:

None recognized.

SECTION 4 - FIRST AID MEASURES

EMERGENCY FIRST AID:

EYE CONTACT: Flush at once with large amounts of lukewarm water for at
least 15 minutes and get medical attention.

SKIN CONTACT: Remove from skin with soap and water. Remove drenched
clothing. If irritation persists, consult a physician.

INHALATION: If affected by inhalation of vapor or spray mist, remove to
fresh air. If necessary, restore breathing; in this case
contact physician at once.

INGESTION: If victim is conscious, give 2 glasses of water to dilute.
Do not induce vomiting. Consult physician or poison control
center at once.

NOTE TO PHYSICIAN:

Not Applicable.

SECTION 5 - FIRE FIGHTING MEASURES

FIRE AND EXPLOSIVE PROPERTIES OF THE CHEMICAL:

Flammability Classification : N/A
Flashpoint : N/A
Explosion Level : Low - -N/A
High - -N/A

EXTINGUISHING MEDIA

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Use extinguishing media appropriate for surrounding fire. After water evaporates, remaining material will burn; use CO2, dry chemical or foam (National Fire Protection Association Class B extinguisher).

FIRE-FIGHTING PROCEDURES AND EQUIPMENT

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode when exposed to extreme heat; use water spray to cool. Product in open containers may spatter when the temperature exceeds boiling point of water.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Ventilate as described in Section 8. Avoid unnecessary skin contact. Stop and/or contain spill if it can be done safely. Avoid discharge into drains, sewers or waterways.

CLEAN-UP

Collect by absorption, shovel and/or wet moping.

SECTION 7 - HANDLING AND STORAGE

HANDLING

Transfer only to approved containers with complete & appropriate labeling. Do not take internally. Keep out of the reach of children.

STORAGE

Do not store above 120 Degrees F. Close container after each use.

SPECIAL COMMENTS

Do not take internally. Wash with soap and water before eating, drinking, smoking or using toilet. Avoid FREEZING this product.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to chemicals in Section 2 is maintained below applicable exposure limits.

RESPIRATORY PROTECTION

Where exposures are below the PEL, no respiratory protection is required. Where exposures exceed the PEL, use a respirator approved by NIOSH or a full protective suit with air supply appropriate for the

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chemical(s) and level of exposure.

EYE PROTECTION

Wear safety spectacles with unperforated side shields.

PROTECTIVE GLOVES

None required for normal application of limited duration is expected.
For long or repeated contact, wear chemical resistant gloves.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Vapor Density	:	N/A
Vapor Pressure	:	17mmHg@ 68 Degrees F (water)
Physical State	:	LIQUID
Boiling Point Range	:	Lower - 212.0 °F
	:	Higher - 212.0 °F
Specific Gravity	:	1.289
Weight per Volume	:	10.7324 LB/GL
VOC - Total (lbs./gal).	:	.329
Evaporation Rate	:	.000 (n-Butyl Acetate = 1)
Volatile by Weight	:	60.0710
Volatile by Volume	:	77.3694

SECTION 10 - STABILITY AND REACTIVITY

STABILITY

This product is stable.

INCOMPATIBILITIES (Materials to Avoid)

None known.

HAZARDOUS POLYMERIZATION

Will not occur.

CONDITIONS TO AVOID

High temperatures.

HAZARDOUS PRODUCTS OF DECOMPOSITION

Heating to decomposition, as in a fire or welding, may produce hazardous fumes. Fumes may contain carbon monoxide, carbon dioxide and oxides of nitrogen.

SECTION 11 - TOXICOLOGICAL INFORMATION

No data at this time.

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SECTION 12 - ECOLOGICAL INFORMATION

No data at this time.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Dispose of this product in accordance with applicable local, county, state and federal regulations, by incinerating, or treating and disposing in approved facility. Do not incinerate closed containers.

SECTION 14 - TRANSPORT INFORMATION

DOT HAZARD CLASS : N/A
DOT PACKAGING GROUP : N/A
DOT LABEL : NONE
DOT SHIPPING NAME : PAINT
DOT PLACARD : NONE
UN/NA NUMBER : NONE

SECTION 15 - REGULATORY INFORMATION

U.S. FEDERAL REGULATORY INFORMATION

TSCA SECTION 8(b) - INVENTORY STATUS:

All components of this product are either listed on the U.S. Toxic Substances Control Act (TSCA) inventory of chemicals or are otherwise compliant with TSCA Regulations.

SARA 313 TOXIC CHEMICALS:

This product contains NONE of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

SECTION 16 - OTHER INFORMATION

Prepared by :
Date of issue : 09/12/2005
Last Revision Date : 02/18/2004

MSDS Prepared for :

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INSL-X PRODUCTS CORPORATION
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MSDS Last Prepared : NONE
HMIS Rating: Health- 0 Flammability- 0
Reactivity- 0

This Material Safety Data Sheet conforms to the Hazard Communication Standard, 29 CFR 1910.1200(g)(4).

The above information pertains to this product as currently formulated and is based on the information available, as of this date. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

Abbreviations used: int.- interior; ext.- exterior; MSDS - Material Safety Data Sheet; HMIS - Hazardous Materials Information System; CAS - Chemical Abstracts Services; pct - percent; wt - weight; mm Hg - millimeters of mercury; F - Fahrenheit; ACGIH - American Conference of Governmental Industrial Hygienists; TLV - Threshold Limit Value; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; TWA - Time-Weighted Average; STEL- Short Term Exposure Limit; N/A- Not applicable IARC - International Agency for Research on Cancer; NE - Not established NTP - National Toxicological Program; CFR - Code of Federal Regulations; OSHA - Z 29CFR 1910, Subpart Z; VOC - Volatile Organic Compounds; TCC - Tag Closed Cup; LEL - Lower Explosive Limit; Mg/m3 or Mg/Cu M - milligram per cubic meter; mppcf - millions of particles per cubic foot; ppm - parts per million; NIOSH - National Institute of Occupational Safety and Health; MSHA - Mine Safety and Health Administration; CNS - Central Nervous System.

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT ID : 66-WHT/CLR
PRODUCT CLASS : PAINT, WATER BASE
TRADE NAME : SUPER KOTE ACRYLIC TRAFFIC MARKING PT
FORMULA ID : 66-WHT/CLR
MSDS PREPARATION DATE : 09/12/2005

MANUFACTURER IDENTIFICATION:

NAME : INSL-X PRODUCTS CORPORATION
ADDRESS : 308 OLD COUNTY ROAD

EDGEWATER FL 32132
TELEPHONE : 386-428-6461
EMERGENCY CONTACT : CHEMTREC
EMERGENCY TELEPHONE : (800) 424-9300

SECTION 2 - COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

1

CAS# 107-21-1
ETHYLENE GLYCOL
PCT BY WT: 1.7110 VAPOR PRESSURE: .060 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH CEILING: 100 mg/cu m (As an aerosol)
OSHA CEILING: 50 ppm
LD50: Oral (Rat)- 4.0 g/kg
CA PROPOSITION 65: Yes

2

CAS# 13463-67-7
TITANIUM DIOXIDE
PCT BY WT: 5 - 10
EXPOSURE LIMIT:
ACGIH TLV/TWA: 10 mg/cu m (Total Dust) - TWA
OSHA PEL/TWA: 10 mg/cu m (Total Dust) - TWA
LD50: Oral (Rat)- >7500 mg/kg (TiO2)

3 GROUND LIMESTONE

CAS# 1317-65-3
CALCIUM CARBONATE
PCT BY WT: 20 - 25
EXPOSURE LIMIT:
ACGIH TLV/TWA: 2 mg/cu m Respirable Dust
OSHA PEL/TWA: 15 mg/cu m Total Dust

4 CALCINED KAOLIN

CAS# 1332-58-7
ALUMINIUM SILICATE
PCT BY WT: 10 - 15
EXPOSURE LIMIT:
ACGIH TLV/TWA: 2 mg/cu m (Respirable fraction)
OSHA PEL/TWA: 10 mg/cu m (Total dust)

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This product contains one or more Hazardous Air Pollutants.

This product contains no reported carcinogens or suspected carcinogens according to the information provided in Section 3 of this MSDS.

This product contains pigments, which may become a dust nuisance when removed by abrasive blasting, sanding, or grinding.

This product contains one or more reported or suspected reproductive toxins.

SECTION 3 - HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYES: Primary irritant.

SKIN: N/A

INHALATION: With poor ventilation, vapor or spray mist may irritate respiratory mucous membranes, causing headache & nausea.

INGESTION: N/A

CHRONIC EFFECTS:

Ethylene glycol is considered an animal teratogen. It has been shown to cause birth defects in rats and mice at high doses when given in drinking water or by gavage. There is no evidence to indicate it causes birth defects in humans. Prolonged overexposure to ethylene glycol may cause adverse effects to the reproductive system.

ROUTE(S) OF EXPOSURE

Exposure may be inhalation and/or skin or eye contact, depending on conditions of use.

CARCINOGENICITY

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

SECTION 4 - FIRST AID MEASURES

EMERGENCY FIRST AID:

EYE CONTACT: Flush at once with large amounts of lukewarm water for at least 15 minutes and get medical attention.

SKIN CONTACT: Remove from skin with soap and water. Remove drenched clothing. If irritation persists, consult a physician.

INHALATION: If affected by inhalation of vapor or spray mist, remove to fresh air. If necessary, restore breathing; in this case

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contact physician at once.

INGESTION: If victim is conscious, give 2 glasses of water to dilute.
Do not induce vomiting. Consult physician or poison control
center at once.

NOTE TO PHYSICIAN:
Not Applicable.

SECTION 5 - FIRE FIGHTING MEASURES

FIRE AND EXPLOSIVE PROPERTIES OF THE CHEMICAL:

Flammability Classification : N/A
Flashpoint : N/A
Explosion Level : Low - 3.2
High - 15.3

EXTINGUISHING MEDIA

Use extinguishing media appropriate for surrounding fire. After
water evaporates, remaining material will burn; use CO2, dry chemical
or foam (National Fire Protection Association Class B extinguisher).

FIRE-FIGHTING PROCEDURES AND EQUIPMENT

Full protective equipment including self-contained breathing
apparatus should be used. Water spray may be ineffective. If water
is used, fog nozzles are preferable.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode when exposed to extreme heat; use
water spray to cool. Product in open containers may spatter when the
temperature exceeds boiling point of water.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Ventilate as described in Section 8. Avoid unnecessary skin
contact. Stop and/or contain spill if it can be done safely.
Avoid discharge into drains, sewers or waterways.

CLEAN-UP

Collect by absorption, shovel and/or wet moping.

SECTION 7 - HANDLING AND STORAGE

HANDLING

Transfer only to approved containers with complete & appropriate
labeling. Do not take internally. Keep out of the reach of children.

STORAGE

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Do not store above 120 Degrees F. Close container after each use.

SPECIAL COMMENTS

Do not take internally. Wash with soap and water before eating, drinking, smoking or using toilet. Avoid FREEZING this product.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to chemicals in Section 2 is maintained below applicable exposure limits.

RESPIRATORY PROTECTION

Where exposures are below the PEL, no respiratory protection is required. Where exposures exceed the PEL, use a respirator approved by NIOSH or a full protective suit with air supply appropriate for the chemical(s) and level of exposure.

EYE PROTECTION

Wear safety spectacles with unperforated side shields.

PROTECTIVE GLOVES

None required for normal application of limited duration is expected. For long or repeated contact, wear chemical resistant gloves.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Vapor Density	:	N/A
Vapor Pressure	:	17mmHg@ 68 Degrees F (water)
Physical State	:	LIQUID
Boiling Point Range	:	Lower - 212.0 °F Higher - 401.0 °F
Specific Gravity	:	1.404
Weight per Volume	:	11.6851 LB/GL
VOC - Total (lbs./gal).	:	.760
Evaporation Rate	:	.010 (n-Butyl Acetate = 1)
Volatile by Weight	:	47.2799
Volatile by Volume	:	66.1262

SECTION 10 - STABILITY AND REACTIVITY

STABILITY

This product is stable.

INCOMPATIBILITIES (Materials to Avoid)

None known.

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HAZARDOUS POLYMERIZATION
Will not occur.

CONDITIONS TO AVOID
High temperatures.

HAZARDOUS PRODUCTS OF DECOMPOSITION
Heating to decomposition, as in a fire or welding, may produce hazardous fumes. Fumes may contain carbon monoxide, carbon dioxide and oxides of nitrogen.

SECTION 11 - TOXICOLOGICAL INFORMATION

No data at this time.

SECTION 12 - ECOLOGICAL INFORMATION

No data at this time.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Dispose of this product in accordance with applicable local, county, state and federal regulations, by incinerating, or treating and disposing in approved facility. Do not incinerate closed containers.

SECTION 14 - TRANSPORT INFORMATION

DOT HAZARD CLASS : N/A
DOT PACKAGING GROUP : N/A
DOT LABEL : NONE
DOT SHIPPING NAME : PAINT
DOT PLACARD : NONE
UN/NA NUMBER : NONE

SECTION 15 - REGULATORY INFORMATION

U.S. FEDERAL REGULATORY INFORMATION

TSCA SECTION 8(b) - INVENTORY STATUS:
All components of this product are either listed on the U.S. Toxic Substances Control Act (TSCA) inventory of chemicals or are otherwise compliant with TSCA Regulations.

SARA 313 TOXIC CHEMICALS:
This product contains the following substances subject to the

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reporting requirements of Section 313 of Title III of the Superfund
Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

ETHYLENE GLYCOL
CAS# 107-21-1 PCT BY WT: 1.7110

SECTION 16 - OTHER INFORMATION

Prepared by :
Date of issue : 09/12/2005
Last Revision Date : 02/18/2004

MSDS Prepared for :

MSDS Last Prepared : NONE
HMIS Rating: Health- 0 Flammability- 0
Reactivity- 0

This Material Safety Data Sheet conforms to the Hazard Communication
Standard, 29 CFR 1910.1200(g)(4).

The above information pertains to this product as currently formulated
and is based on the information available, as of this date. Addition of
reducers or other additives to this product may substantially alter the
composition and hazards of the product. Since conditions of use are out-
side our control, we make no warranties, express or implied, and assume
no liability in connection with any use of this information.

Abbreviations used: int.- interior; ext.- exterior; MSDS - Material Safety
Data Sheet; HMIS - Hazardous Materials Information System; CAS - Chemical
Abstracts Services; pct - percent; wt - weight; mm Hg - millimeters of
mercury; F - Fahrenheit; ACGIH - American Conference of Governmental
Industrial Hygienists; TLV - Threshold Limit Value; OSHA - Occupational
Safety and Health Administration; PEL - Permissible Exposure Limit; TWA -
Time-Weighted Average; STEL- Short Term Exposure Limit; N/A- Not applicable
IARC - International Agency for Research on Cancer; NE - Not established
NTP - National Toxicological Program; CFR - Code of Federal Regulations;
OSHA - Z 29CFR 1910, Subpart Z; VOC - Volatile Organic Compounds; TCC -
Tag Closed Cup; LEL - Lower Explosive Limit; Mg/m3 or Mg/Cu M - milligram
per cubic meter; mppcf - millions of particles per cubic foot; ppm - parts
per million; NIOSH - National Institute of Occupational Safety and Health;
MSHA - Mine Safety and Health Administration; CNS - Central Nervous System.

MATERIAL SAFETY DATA SHEET

(In compliance with OSHA Regulation 29 CFR 1910.1200 -Hazard Communication)

IDENTITY: COURT PATCH TROWEL GREEN**SECTION I -Manufacturer/Product Information****MANUFACTURED FOR:** REVERE-
A. PIONEER COMPANY**Emergency Telephone No.:** 800-535-5053**Address:**
4529 INDUSTRIAL PARKWAY
CLEVELAND, OH 44135**Telephone Number for Information:**
800-321-1976**Date Prepared:** August 30, 1995**SECTION II -Hazardous Ingredients/Identity Information**

Hazardous Components: Specific Chemical Identity; Common Name, CAS No.)	Exposure Limits		Other Limits Recommend.	% (Optional)
	OSHA CCGIH PEL -(1)	TLV -(2)		
Non-Toxic Pigments/Extenders: -(3)				Total%: 72.1-76.8
Chromium(III) Dioxide dust - (*) Cr ₂ O ₃ CAS#1308 -38-9	1mg/m	3		
Silicon Dioxide dust SiO ₂ CAS#14808 -60-7	0.1mg/m ³			

Ethylene Glycol (*) HOCH ₂ CH ₂ OH CAS#107- 21-1	50ppm			0.9-1.1
Texanol (Ester Alcohol) 2,2,4-trimethyl-1,3-pentanediol mono isobutyrate CAS#25265 -77-4	Not test.			0.5-0.8

(*) Indicate toxic chemicals subject to the reporting requirement of section 313 of SAR Title III and 40 CFR 372 (Code of Federal Regulations). (A chemical or chemical category listed by the EPA is subject to toxic chemical release reporting under the Emergency Planning and Community Right-To-Know Act of 1986).

(1) (OSHA Permissible Exposure Limit) - These limits express the permissible maximum amount of a chemical to which a person may be exposed. The concentrations listed refer to airborne exposure, as might occur (via mist), which is unlikely to form with this product in view of its properties.

(2) (American Conference of Governmental Industrial Hygienists Threshold Limit Value) - This value is expressed in parts per million. The TLV is the concentration of substance in the air that can be breathed for five consecutive eight hour work days (40 -hour work week) by most people, without harmful effects.

(3) The silicon dioxide dust and the chromium(III) oxide dust, that are listed as hazardous ingredients are based on OSHA regulation for respirable (air -borne) dust. Since this product is a wet application item, there is virtually no hazard associated with its use in its original form. There would be potential hazards associated with the silicon dioxide and the chromium(III) oxide during operations such as sand blasting and scarification. (Approximately one percent of sand content is considered respirable).

FOR CHEMICAL EMERGENCY
Call INFOTRAC
1-800-535-5053
24 Hrs. per day, 7 days per week

COURT PATCH TROWEL GREEN

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SECTION III - Physical/Chemical Characteristics

Boiling Point: 100^o Celsius (212^o Fahrenheit)
Specific Gravity (Water=1): 1.93
Vapor Pressure (mmHg): Is nearly equal to the vapor pressure of water.
Melting Point: N/A
Vapor Density: Heavier than air.
Evaporation Rate (Butyl Acetate=1): Less than 1.0
Solubility in Water: The formulation is not water soluble, but is water dispersible in its liquid state. After drying, the film is no longer water soluble to a significant extent. Chromium (III) oxide is not water soluble.
Appearance: Green liquid
Odor: Mild odor, characteristic of latex odor.

SECTION IV - Fire and Explosion Hazard Data

HMIS Rating: 0
Flash Point (Method Used): Non Combustible
Flammable Limits in Air: Not Applicable
Extinguishing Media: Foam, CO₂, dry chemical, water fog, other.
Special Fire Fighting Methods: Full protective equipment, including self-contained breathing apparatus, to be worn.
Unusual Fire & Explosion Hazards: Not Applicable

SECTION V - Reactivity Data

HMIS Rating: 0
Stability: Good storage stability between 5^o Celsius and 50^o Celsius.
Conditions to Avoid: Keep from freezing and extreme heat.
Incompatibility (Materials to Avoid): Strong acids or bases.
Hazardous Decomposition or Byproducts: Combustion may yield carbon monoxide and/or carbon dioxide, and traces of monomer, as well as other toxic pyrolysis products.
Hazardous Polymerization: Will not occur.

COURT PATCH TROWEL GREEN

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SECTION VI - Health Hazard Data**HMIS Rating:** 0**Primary Routes of Exposure:****Inhalation:** Yes - Texanol from curing; or dust from sand blasting.**Eye Contact:** Yes**Skin Contact:** No**Ingestion:** Yes**Health Hazards (Acute & Chronic):** (Acute): Dizziness, weakness, nausea, headache.

(Chronic): Gastrointestinal irritation - Prolonged or repeated exposure to high vapor concentrations may cause damage to kidneys, liver, lungs, blood, or central nervous system. Repeated ingestion may cause liver damage.

Signs and Symptoms of Exposure:**Inhalation:** Vapor could cause headache, irritation to nose and throat, dizziness, weakness and nausea.**Eye:** Irritation from vapor or liquid.**Skin:** Not easily absorbed - prolonged or repeated contact may be mildly irritating to the skin.**Ingestion:** Can cause nausea, vomiting, diarrhea.**Medical Conditions Generally Aggravated by Exposure:** None known.**Carcinogenicity:** National Toxicology Program (NTP): No**International Agency for Research on Cancer (IARC) Monographs:** No**OSHA Regulated:** No**Emergency and First Aid Procedures:****Inhalation:** Remove to fresh air and provide oxygen if breathing is difficult.**Ingestion:** If conscious, give 1-2 glasses of water or milk and induce vomiting with Syrup of Ipecac, keeping head below hips to avoid aspiration into lungs. (Vomiting is most effective if initiated within 30 minutes of ingestion). CONTACT A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY.**Skin Contact:** Wash area with soap and water. Remove contaminated clothing.**Eye Contact:** Irrigate eyes immediately with large amount of room temperature water for at least 15 minutes, or until eyes are clear. TAKE TO A PHYSICIAN FOR HELP.**SECTION VII - Precautions for Safe Handling and Use****Steps To Be Taken In Case Materials Released Or Spilled:** Dike and contain spill with inert material (sand, sawdust, diatomaceous earth, etc.). Pump liquid into storage tanks. Remaining liquid may be taken up with inert materials. Place in closed container for proper disposal.**Waste Disposal Method:** Dispose of in accordance with Local, State, and Federal regulations.**Precautions To Be Taken In Handling And Storing:** Keep container closed and upright to prevent leakage. Avoid freezing or temperatures above 50°Celsius.**Other Precautions:** Do not take internally. Keep away from children. Avoid breathing vapors. For external use only.

COURT PATCH TROWEL GREEN

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SECTION VIII**-Control Measures**

Respiratory Protection (Specify Type): None required in the absence of mist formulation during use if good ventilation is maintained. Otherwise use NIOSH approved respirator designed to remove particles and vapor.

Ventilation: Local Exhaust: Needed at point of release to maintain exposure below TLV.

Mechanical General: N/A

Special: N/A

Other: N/A

Protective Gloves: Rubber gloves for prolonged contact.

Eye Protection: Chemical splash goggles recommended to avoid eye contact.

Other Protective Clothing or Equipment: A rubber apron is recommended to protect clothing during application.

Work/Hygienic Practices: Wash hands before eating.

SECTION IX**-Special Precautions**

Other Precautions: Do not apply if rain is imminent or forecast to prevent contamination of runoff water.

SECTION X -Disclaimer

All information, recommendations, and suggestions concerning this product are based upon tests, literature references, and/or calculations, believed to be reliable. The manufacturer makes no guarantee, expressed or implied, as to the effect of use, or the safety and toxicity of the product. The information contained in this sheet cannot be taken as the sum total of all protective measures to be taken.

MATERIAL SAFETY DATA SHEET

Date Printed: 06/13/16

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT CODE: MS-32120-31
PRODUCT NAME: CRAFT HOUSE

PLAID ENTERPRISES, INC.
3225 WESTECH DRIVE
NORCROSS, GA 30092

PHONE: 678-291-8100 CHEMTREC 24-HOUR PHONE: 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT/EXPOSURE LIMITS	CAS#	% BY WT.
---------------------------	------	----------

*****No reportable quantities of hazardous materials are present.*****

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYE: Direct contact with material may cause slight irritation.

SKIN: Prolonged or repeated contact may cause slight skin irritation.

INGESTION: Not an anticipated route of exposure. Small amounts are not anticipated to be harmful.

INHALATION: Exposure to vapors in poorly ventilated areas may cause irritation of the nose, throat, and respiratory tract.

CHRONIC (CANCER) INFORMATION: No anticipated chronic effects. This product does not contain regulated levels of NTP, IARC, ACGIH or OSHA listed carcinogens.

TERATOLOGY (BIRTH DEFECT) INFORMATION: Product does not contain chemicals at levels known to cause birth defects.

REPRODUCTION INFORMATION: Product does not contain chemicals at levels known to cause reproductive toxicity.

4. FIRST AID MEASURES

EYES: Flush eyes with a large amount of water for at least 15 minutes. Consult a physician if irritation persists.

MATERIAL SAFETY DATA SHEET

Date Printed: 06/13/16

SKIN: Wash affected skin areas thoroughly with soap and water. Consult a physician if irritation persists.

INGESTION: Small amounts are not anticipated to be harmful. Give 2 glasses of water to drink.

INHALATION: Remove to fresh air. Get medical attention if breathing is difficult.

NOTE TO PHYSICIANS: Please contact your local poison control center for information regarding this product.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: Not Determined METHOD: Not Determined

FLAMMABLE LIMITS:

LOWER FLAMMABLE LIMIT: Not Determined

UPPER FLAMMABLE LIMIT: Not Determined

AUTOIGNITION TEMPERATURE: Not Applicable.

HAZARDOUS COMBUSTION PRODUCTS: Not Applicable

EXTINGUISHING MEDIA: Use extinguishing media appropriate for surrounding fire, water spray, foam, carbon dioxide, or dry chemical.

FIREFIGHTING INSTRUCTIONS: Use water spray to cool containers not actively involved in fire. Self contained breathing apparatus recommended for fire fighters.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Absorb spill with inert material.

LARGE SPILL: Floor may be slippery, use care to avoid falling. Contain spills immediately with inert materials (e.g. sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal. Caution: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

7. HANDLING AND STORAGE

MATERIAL SAFETY DATA SHEET

Date Printed: 06/13/16

HANDLING: Avoid employee exposure through the use of appropriate engineering controls, adequate personal protective equipment, and good industrial hygiene practices. Wash thoroughly after handling. Handle in well ventilated work space.

STORAGE: Store in a moderate cool, dry, well ventilated area away from direct sources of heat. Avoid freezing (32F). Position containers so that any labeling information is visible. Keep containers closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: The use of local exhaust ventilation is recommended to control emissions near the source. Additional engineering controls should be used as necessary.

RESPIRATORY PROTECTION: Respiratory protection is generally not required. A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

SKIN PROTECTION: Impervious clothing should be worn when gross contact is likely, such as when cleaning up large spills. Neoprene gloves may provide protection against permeation.

EYE PROTECTION: Use safety glasses with side shields (ANSI Z87.1 or approved equivalent).

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 212 Deg. F

MELTING POINT: Not determined.

VAPOR PRESSURE: Not Determined

VAPOR DENSITY: Not Determined.

SOLUBILITY IN WATER: 100% Soluble or dispersible.

SPECIFIC GRAVITY: 1.025

PH: 9.3 to 9.5

ODOR: Acrylic odor

APPEARANCE: Colored dispersion.

COATING VOC: .15 lb/gl

MATERIAL VOC: .05 lb/gl

10. STABILITY AND REACTIVITY

MATERIAL SAFETY DATA SHEET

Date Printed: 06/13/16

CHEMICAL STABILITY (CONDITIONS TO AVOID): This material is considered stable. However, avoid temperatures above 177C/350F, the onset of polymer decomposition. Thermal decomposition is dependent on time and temperature.

INCOMPATIBILITY: There are no known materials which are incompatible with this product.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition will not occur.

HAZARDOUS POLYMERIZATION: Product will not undergo polymerization.

11. TOXICOLOGICAL INFORMATION

As packaged for consumers, this product is certified in a toxicological evaluation by a medical expert to contain no materials in sufficient quantities to be toxic or injurious to humans, including children, or to cause acute or chronic health problems.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No applicable data.

CHEMICAL FATE INFORMATION: Appreciable evaporation from water to air is expected in the environment. No appreciable bioconcentration is expected in the environment.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Local, State, and Federal waste disposal regulations.

14. TRANSPORT INFORMATION:

NOT MEANT TO BE ALL INCLUSIVE

US DOT Hazard Class.....Nonregulated

15. REGULATORY INFORMATION:

NOT MEANT TO BE ALL INCLUSIVE - SELECTED REGULATIONS REPRESENTED

U.S. FEDERAL REGULATIONS: The components of this product are included on the TSCA inventory.

OSHA: This product is considered non-hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200)

MATERIAL SAFETY DATA SHEET

Date Printed: 06/13/16

CERCLA: SARA HAZARD CATEGORY: Release of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304.

SECTION 313: This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

INTERNATIONAL REGULATIONS:

CANADIAN WHMIS: This product is not a controlled product under the Canadian Workplace Hazardous Materials Information System (WHMIS).

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): All components of this product are on the Domestic Substances List (DSL), and acceptable for use under the provisions of CEPA.

EINECS: All the components of this product are on the European Inventory of Existing Commercial Chemical Substances.

STATE REGULATIONS:

VOLATILE ORGANIC COMPOUNDS: The Volatile Organic Compounds (VOCs) are below the emission limits as regulated by The Environmental Protection Agency (EPA) and state regulations.

16. OTHER INFORMATION

NAME OF PREPARER: Dewey Wright

REVISION DATE: 01/14/03

HMIS CODES: H F R P
1 0 0 A

HMIS HAZARD RATINGS: H=HEALTH, F=FIRE, R=REACTIVITY, P=PERSONAL

SCALE: 0=MINIMAL, 1=SLIGHT, 2=MODERATE, 3=SERIOUS, 4=SEVERE

PERSONAL PROTECTION: See Section 8, Exposure Controls/Personal Protection for recommended handling of material as supplied; check with supervisor for your actual use condition.

MATERIAL SAFETY DATA SHEET

Date Printed: 06/13/16

HMIS is a registered trademark of the National Paint and Coatings Association.

LIST OF ACRONYMS:

ACGIH: American Conference of Government Industrial Hygienists

IARC: International Agency for Research on Cancer

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

PPM: Parts Per Million

SARA: Superfund Amendment Reauthorization Act

TLV: Threshold Limit Value

TSCA: Toxic Substance Control Act

Please note that this MSDS applies to industrial handling of this material. Consumers should read product label. The information and recommendations set forth herein are believed to be accurate. The data is derived from information provided to Plaid Enterprises, Inc. from its raw material suppliers. Plaid Enterprises, Inc. makes no guarantee or warranty, expressed or implied, regarding the accuracy, reliability, or completeness of the data or the results to be obtained from the use thereof. It is the responsibility of the user of the product to comply with all applicable federal, state, and local laws and regulations.

MATERIAL SAFETY DATA SHEET

Date Printed: 06/13/16

R.02-03-03 ✓

Material Safety Data Sheet

CHROMA INC
 Manufacturer
 205 BUCKY DRIVE
 Address
 LITITZ, PA 17543
 (717)626-8866
 Phone Number (For Information)
 (717)626-8866
 Emergency Phone Number Telex*

DICK BLICK CRAFT COLORS

Identity (Trade Name As Used On Label)

MSDS Number*

CAS Number*

6/02

Date Prepared

Prepared By*

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

00727-
 all Colors
 Except
 -1035
 -1045
 -1055

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS — Chemical Name & Common Names (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	%	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED
PRODUCT IS WATER BASED, NON-HAZARDOUS, NON-TOXIC				
ACRYLIC COLOR IN LIQUID FORM. CERTIFIED NON-TOXIC				
BY (ART & CREATIVE MATERIALS INSTITUTE).				
1. WATER				
2. VARIOUS ASSORTED PIGMENTS - ALL NON-TOXIC.				
3. ACRYLIC EMULSION				
4. ACRYLIC THICKENERS				
5. CALCIUM CARBONATE				
6. PRESERVATIVE NON-HAZARDOUS AT LEVEL USED (.3%)				
Non-Hazardous Ingredients				
TOTAL	100			

V.920

SECTION 2 - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point 215°-275°F	Specific Gravity (H ₂ O = 1) NOT KNOWN
Vapor Pressure (mm Hg and Temperature) NOT KNOWN	Melting Point NOT KNOWN
Vapor Density (Air = 1) LIGHTER THAN AIR	Evaporation Rate (Air = 1) SLOWER THAN ETHER
Solubility in Water TOTALLY SOLUBLE	Water Reactive NOT KNOWN

Appearance and Odor LIQUID ACRYLIC PAINTS IN ASSORTED COLORS. SLIGHT AMMONIA SMELL.

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flash Point and Method Used N/A	Auto-Ignition Temperature N/A	Flammability Limits in Air % by Volume N/A	LEL UNKNOWN	UEL UNKNOWN
Extinguisher Media N/A				
Special Fire Fighting Procedures N/A				
Unusual Fire and Explosion Hazards N/A				

*Optional

Item Numbers: 00727-0079, 00727-1023, 00727-1025, 00727-1079, 00727-1179, 00727-1583, 00727-2023, 00727-2025, 00727-2323, 00727-3063, 00727-3073, 00727-3083, 00727-3553, 00727-3563, 00727-3573, 00727-3703, 00727-3713, 00727-3723, 00727-4013, 00727-4023, 00727-4033, 00727-4293, 00727-4513, 00727-4523, 00727-4533, 00727-4753, 00727-4763, 00727-4773, 00727-4833, 00727-4843, 00727-4853, 00727-5023, 00727-5033, 00727-5043, 00727-5053, 00727-5063, 00727-5103, 00727-5113, 00727-5123, 00727-5373, 00727-5383, 00727-5393, 00727-5463, 00727-5813, 00727-5823, 00727-5833, 00727-5913, 00727-6533, 00727-6543, 00727-6553, 00727-7013, 00727-7023, 00727-7033, 00727-7043, 00727-7053, 00727-7063, 00727-7453, 00727-7483, 00727-7753, 00727-7763, 00727-7773, 00727-8003, 00727-8143, 00727-9023, 00727-9323, 00727-1093, 00727-2503, 00727-3043, 00727-3143, 00727-4113, 00727-5163, 00727-5293, 00727-6413, 00727-7083, 00727-9263, 00727-9333, 00727-9503

00727-002 00727-PAX 717 828 829

CHROMA INC

PAGE 2 - DICK BLICK CRAFT COLORS

0003

SECTION 4 - REACTIVITY HAZARD DATA**STABILITY**☒ Stable
☐ Unstable**Conditions**

To Avoid N/A

**Incompatibility
(Materials to Avoid)**

NONE

Hazardous

Decomposition Products NONE

HAZARDOUS POLYMERIZATION☐ May Occur
☒ Will Not Occur**Conditions**

To Avoid NONE

SECTION 5 - HEALTH HAZARD DATA**PRIMARY ROUTES
OF ENTRY**☐ Inhalation☐ Ingestion☐ Skin Absorption☒ Not Hazardous**CARCINOGEN
LISTED IN**☐ NTP☐ IARC Monograph☐ OSHA☒ Not Listed**HEALTH HAZARDS****Acute**

NONE

Chronic

NONE

**Signs and Symptoms
of Exposure**

NONE

Medical Conditions

Generally Aggravated by Exposure NONE

EMERGENCY FIRST AID PROCEDURES - Seek medical assistance for further treatment, observation and support if necessary.**Eye Contact**

NONE

Skin Contact

NONE

Inhalation

NONE

Ingestion

NONE

SECTION 6 - CONTROL AND PROTECTIVE MEASURES**Respiratory Protection
(Specify Type)**

NONE NEEDED UNDER NORMAL CONDITIONS OF USE

Protective Gloves

NOT REQUIRED

Eye Protection

NOT REQUIRED

**VENTILATION
TO BE USED**☐ Local Exhaust

NONE

☐ Mechanical (general)

NONE

☐ Special

NONE

☐ Other (specify)

NONE

Other Protective

Clothing and Equipment

NOT REQUIRED

Hygienic Work

Practices

AS WITH ANY WATER BASED PRODUCT

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE / LEAK PROCEDURES**Steps to be Taken if Material
is Spilled Or Released**

DIKE AND CONTAIN SPILL WITH INERT MATERIALS (SAND, SAWDUST, ETC.)

AND TRANSFER CONTENTS TO CONTAINERS FOR DISPOSAL.

**Waste Disposal
Methods**

NORMAL DISPOSAL

**Precautions to be Taken
in Handling and Storage**

NO PARTICULAR PRECAUTIONS

Other Precautions and/or Special Hazards

NONE

**NFPA
Rating***

Health

Flammability

Reactivity

Special

**HMS
Rating***

Health

Flammability

Reactivity

Personal Protection

*Optional

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Reorder No. 2217-2

Item Numbers: 00727-0079, 00727-1023, 00727-1025, 00727-1079, 00727-1179, 00727-1583, 00727-2023, 00727-2025, 00727-2323, 00727-3063, 00727-3073, 00727-3083, 00727-3553, 00727-3563, 00727-3573, 00727-3703, 00727-3713, 00727-3723, 00727-4013, 00727-4023, 00727-4033, 00727-4293, 00727-4513, 00727-4523, 00727-4533, 00727-4753, 00727-4763, 00727-4773, 00727-4833, 00727-4843, 00727-4853, 00727-5023, 00727-5033, 00727-5043, 00727-5053, 00727-5063, 00727-5103, 00727-5113, 00727-5123, 00727-5373, 00727-5383, 00727-5393, 00727-5463, 00727-5813, 00727-5823, 00727-5833, 00727-5913, 00727-6533, 00727-6543, 00727-6553, 00727-7013, 00727-7023, 00727-7033, 00727-7043, 00727-7053, 00727-7063, 00727-7453, 00727-7483, 00727-7753, 00727-7763, 00727-7773, 00727-8003, 00727-8143, 00727-9023, 00727-9323, 00727-1093, 00727-2503, 00727-3043, 00727-3143, 00727-4113, 00727-5163, 00727-5293, 00727-6413, 00727-7083, 00727-9263, 00727-9333, 00727-9503

Material Safety Data Sheet

Product Name: CRAYOLA(R) PREMIER & ARTISTA II(R) TEMPERA PAINTS

Product Family:

1. Chemical Product and Company Identification

CRAYOLA LLC
1100 CHURCH LANE
EASTON, PA 18044
1-800-272-9652
support@crayola.com

EMERGENCY TELEPHONE NUMBER:
1-800-535-5053
or call local POISON CONTROL CENTER

SUBSTANCE: CRAYOLA(R) PREMIER & ARTISTA II(R) TEMPERA PAINTS

TRADE NAMES/SYNONYMS:

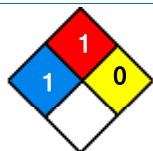
CRAYOLA PREMIER & ARTISTA II TEMPERA PAINTS; PRODUCT COLORS/CODES: CRAYOLA PREMIER TEMPERA- 54-1106, 54-1116, 54-1206, 54-1208, 54-1208G, 54-1208S, 54-1216, 54-1216G, 54-1216S, 54-1232, 54-1264; ARTISTA II TEMPERA- 54-3115, 54-3115F (STANDARD & FLUORESCENT), 54-3128, 54-3132, 54-3164; BLACK, BLUE, BROWN, GOLD (CRAYOLA), GREEN, MAGENTA, ORANGE, PEACH, RED, SILVER (CRAYOLA), TURQUOISE BLUE, VIOLET, WHITE, YELLOW, FLUORESCENT BLUE, FLUORESCENT GREEN, FLUORESCENT PINK, FLUORESCENT RED, FLUORESCENT ORANGE-YELLOW, FLUORESCENT YELLOW, FLUORESCENT MAGENTA, FLUORESCENT ORANGE, FLUORESCENT ORANGE-RED, FLUORESCENT CHARTREUSE; 44-1997-0-042 BLUE; 44-1997-0-044 GREEN; BIG YELLOW BOX FRIENDS ON THE FLY-BUTTERFLIES (78-1240-0-000); FRIENDS ON THE FLY-SEA CREATURES (78-1250-0-000); JUST IN CHIME (78-1280-0-000); 54-3108, 54-3181, 54-3182, 54-3183; 54-8516, 54-8216; CRAYOLA PREMIER BLUE AND GREEN TEMPERA; BNSSS201

PRODUCT USE: Arts and Crafts

CREATION DATE: Nov 21 1997

REVISION DATE: Jun 14 2007

2. Hazards Identification



NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=1 REACTIVITY=0

EMERGENCY OVERVIEW:

COLOR: various colors

PHYSICAL FORM: liquid

ODOR: odorless

MAJOR HEALTH HAZARDS: No significant target effects reported.

POTENTIAL HEALTH EFFECTS:

INHALATION:

none

SKIN CONTACT:

none

EYE CONTACT:

none

INGESTION:

none

CARCINOGEN STATUS:

OSHA: No
NTP: No
IARC: No

3. Composition, Information on Ingredients

COMPONENT: Product has been certified as non-toxic by The Art and Creative Materials Institute, Inc. and conforms to ASTM D-4236 Standard Practice for Labeling Art Materials for Acute and Chronic Adverse Health Hazards.
CAS NUMBER: Not assigned.
EC NUMBER: Not assigned.
PERCENTAGE: 100

4. First Aid Measures

INHALATION: It is unlikely that emergency treatment will be required. Remove from exposure. Get medical attention, if needed.

SKIN CONTACT: It is unlikely that emergency treatment will be required. If adverse effects occur, wash with soap or mild detergent and large amounts of water. Get medical attention, if needed.

EYE CONTACT: It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.

INGESTION: Contact local poison control center or physician immediately.

5. Fire Fighting Measures

FIRE AND EXPLOSION HAZARDS: Slight fire hazard.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water, regular foam

FIRE FIGHTING: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

FLASH POINT: No data available.

6. Accidental Release Measures

OCCUPATIONAL RELEASE:
Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

7. Handling and Storage

STORAGE: Store and handle in accordance with all current regulations and standards. See original container for storage recommendations. Keep separated from incompatible substances.

8. Exposure Controls, Personal Protection

EXPOSURE LIMITS:

CRAYOLA(R) PREMIER & ARTISTA II(R) TEMPERA PAINTS:

No occupational exposure limits established.

VENTILATION: Based on available information, additional ventilation is not required.

EYE PROTECTION: Eye protection not required under normal conditions.

CLOTHING: Protective clothing is not required under normal conditions.

GLOVES: Protective gloves are not required under normal conditions.

RESPIRATOR: No respirator is required under normal conditions of use.

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

9. Physical and Chemical Properties

PHYSICAL STATE: liquid

COLOR: various colors

ODOR: odorless

BOILING POINT: Not available

FREEZING POINT: Not available

VAPOR PRESSURE: Not available

VAPOR DENSITY: Not available

SPECIFIC GRAVITY: Not available

WATER SOLUBILITY: Not available

PH: Not available

VOLATILITY: Not available

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not available

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

10. Stability and Reactivity

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: None reported.

INCOMPATIBILITIES: oxidizing materials

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of carbon

POLYMERIZATION: Will not polymerize.

11. Toxicological Information

Not available

12. Ecological Information

Not available

13. Disposal Considerations

Dispose in accordance with all applicable regulations.

14. Transport Information

U.S. DEPARTMENT OF TRANSPORTATION: No classification assigned.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

LAND TRANSPORT ADR: No classification assigned.

LAND TRANSPORT RID: No classification assigned.

AIR TRANSPORT IATA: No classification assigned.

AIR TRANSPORT ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

15. Regulatory Information

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):
Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):
Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):

ACUTE: No

CHRONIC: No

FIRE: No

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED): Not determined.

Material Safety Data Sheet

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

16. Other Information

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00043-1016	-1039
-1026	
-1036	

BEGIN MSDS 00232230

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

BINNEY & SMITH
1100 CHURCH LANE
EASTON, PA 18044
1-800-272-9652

EMERGENCY TELEPHONE NUMBER:
1-800-535-5053
or call local POISON CONTROL CENTER

SUBSTANCE: CRAYOLA® MIXING MEDIUMS

TRADE NAMES/SYNONYMS:

PRODUCT CODES: 54-5501; 54-5502; 54-5503; 54-5504; 00232230

PRODUCT USE: Arts and Crafts

CREATION DATE: Oct 10 2006

REVISION DATE: Oct 12 2006

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: Product has been certified as non-toxic by The Art and Creative Materials Institute, Inc. and conforms to ASTM D-4236 Standard Practice for Labeling Art Materials for Acute and Chronic Adverse Health Hazards.

CAS NUMBER: Not assigned.

EC NUMBER: Not assigned.

PERCENTAGE: 100

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=1 REACTIVITY=0

EMERGENCY OVERVIEW:

COLOR: various colors

PHYSICAL FORM: liquid

ODOR: odorless

MAJOR HEALTH HAZARDS: No significant target effects reported.

POTENTIAL HEALTH EFFECTS:

INHALATION:

none

SKIN CONTACT:

none

EYE CONTACT:

none

INGESTION:

none

CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: No

4. FIRST AID MEASURES

INHALATION: It is unlikely that emergency treatment will be required. Remove from exposure. Get medical attention, if needed.

SKIN CONTACT: It is unlikely that emergency treatment will be required. If adverse effects occur, wash with soap or mild detergent and large amounts of water. Get medical attention, if needed.

EYE CONTACT: It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.

INGESTION: Contact local poison control center or physician immediately.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Slight fire hazard.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water, regular foam

FIRE FIGHTING: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

FLASH POINT: No data available.

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. See original container for storage recommendations. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

CRAYOLA® MIXING MEDIUMS:

No occupational exposure limits established.

VENTILATION: Based on available information, additional ventilation is not required.

EYE PROTECTION: Eye protection not required under normal conditions.

CLOTHING: Protective clothing is not required under normal conditions.

GLOVES: Protective gloves are not required under normal conditions.

RESPIRATOR: No respirator is required under normal conditions of use.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid

COLOR: various colors

ODOR: odorless

BOILING POINT: Not available

FREEZING POINT: Not available

VAPOR PRESSURE: Not available

VAPOR DENSITY: Not available

SPECIFIC GRAVITY: Not available

WATER SOLUBILITY: Not available

PH: Not available

VOLATILITY: Not available

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not available

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: None reported.

INCOMPATIBILITIES: oxidizing materials

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of carbon

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

Not available

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: No classification assigned.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

LAND TRANSPORT ADR: No classification assigned.

LAND TRANSPORT RID: No classification assigned.

AIR TRANSPORT IATA: No classification assigned.

AIR TRANSPORT ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):
Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):
Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):
ACUTE: No
CHRONIC: No
FIRE: No
REACTIVE: No
SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED): Not determined.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): All the components of this substance are listed on or

are exempt from the inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

16. OTHER INFORMATION

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33214-XXXX**Safety Data Sheet****Material Name:** CRAYOLA® MODEL MAGIC; FUSION**SDS ID:** BNSSS002*****Section 1 - PRODUCT AND COMPANY IDENTIFICATION*******Material Name:** CRAYOLA® MODEL MAGIC; FUSION

CRAYOLA LLC
1100 Church Lane
Easton, PA 18044
support@crayola.com

Phone: 1-800-272-9652

Health Emergency - Call local Poison Control Center
Transportation Emergency: 1-800-535-5053

Synonyms

CRAYOLA MODEL MAGIC; CRAYOLA AIR DRY MODEL MAGIC; POOH; CRAYOLA MODEL MAGIC PURPLE; CRAYOLA MODEL MAGIC BROWN; CRAYOLA MODEL MAGIC (CRAYOLA FLUFF STUFF); CRAYOLA COLORED MODEL MAGIC; CRAYOLA NEON MODEL MAGIC; PRODUCT COLORS/CODES: 04-1951; 04-2529 ART TUB; 04-5692 ART CASE; 04-5719; 57-4400; 57-4401; 04-4401; 57-4433 BISQUE; 57-4434 YELLOW; 57-4436 ORANGE; 57-4438 RED; 57-4442 BLUE; 57-4444 GREEN; 57-4451 BLACK; 57-4459 EARTHTONE; 57-4464 TERRA COTTA; ORANGE GLOW; WHITE GLOW; 57-4415 CRAYOLA MODEL MAGIC - 2 LB. BUCKET; 23-6001; 04-4600; 901 YELLOW; 902 ORANGE; 903 RED; 904 PURPLE; 905 BLUE; 906 BRIGHT GREEN; 907 MAGENTA; 908 TURQUOISE; 23-0017; 23-0792; 23-0025-A-XXX (034, 036, 042, 053); 23-6002; PRODUCT COLORS: ATOMIC TANGERINE, LASER LEMON, RADICAL RED, SHOCKING PINK, YELLOW GREEN; 57-4491, 57-4494, 57-4495, 57-4496, 57-4497; 23-2200; 23-2201; 23-2220; 23-2221; 23-2223; 23-2225; 23-2226; 23-2227; 23-2230; 23-2231; 23-2232; 23-2233; 23-2234; 23-2235; 23-2237; 23-2240; 23-2241; 23-2250; 23-2252; 23-2253; 23-2260; 23-2270; 23-2271; 23-2272; 23-2273; 23-2274; 23-2275; 23-2276; 23-2402; 23-2403; 23-2404; 23-2405; 23-2407; 23-2408; 23-2412; 23-2413; 23-2436; 23-2437; 23-2438; 23-2439; 23-2505; 57-4418; 23-2414; 23-3001; 23-3002; 23-3010; 23-3011; 23-3020; 23-3021; 23-3022; 23-3023; 23-3024; 23-3025; 23-3030; 23-3035; 23-3040; 23-3041; 23-3051; 23-3052; 23-3053; 23-3054; 23-3070; 23-3072; 23-3150; 23-3153; 23-3303; 23-6010; 23-6011; 23-6012; 23-6013; 23-6014; 23-6016; 23-6017; 23-6018; 23-3019; 23-6021; 23-6022; 23-6023; 23-6024; 23-6205; 23-6305; 23-6310; 94-4203

Product Use

Arts and Crafts

*****Section 2 - HAZARDS IDENTIFICATION*******EMERGENCY OVERVIEW**

Color: white, various colors
Physical Form: semi-solid gel
Odor: faint odor

POTENTIAL HEALTH EFFECTS

Inhalation: none
Skin Contact: none
Eye Contact: none
Ingestion: none

*****Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS*****

CAS	Component	Percent	Symbol(s)	Risk Phrase(s)
Not Available	Product has been certified as non-toxic by the art and creative materials institute, inc. and conforms to astm D-4236 standard practice for labeling art materials for acute and chronic adverse health hazards.	100	---	---

Safety Data Sheet

Material Name: CRAYOLA® MODEL MAGIC; FUSION

SDS ID: BNSSS002

Section 4 - FIRST AID MEASURES

Inhalation

It is unlikely that emergency treatment will be required. Remove from exposure. Get medical attention, if needed.

Skin

It is unlikely that emergency treatment will be required. If adverse effects occur, wash with soap or mild detergent and large amounts of water. Get medical attention, if needed.

Eyes

It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.

Ingestion

Contact local poison control center or physician immediately.

Section 5 - FIRE FIGHTING MEASURES

See Section 9 for Flammability Properties

NFPA Ratings: Health: 1 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Slight fire hazard.

Extinguishing Media

regular dry chemical, carbon dioxide, water, regular foam

Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

Section 6 - ACCIDENTAL RELEASE MEASURES

Occupational spill/release

Collect spilled material in appropriate container for disposal.

Section 7 - HANDLING AND STORAGE

Handling Procedures

Use methods to minimize dust.

Storage Procedures

Store and handle in accordance with all current regulations and standards. See original container for storage recommendations. Keep separated from incompatible substances.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

ACGIH and EU have not developed exposure limits for any of this product's components.

Ventilation

Based on available information, additional ventilation is not required.

PERSONAL PROTECTIVE EQUIPMENT**Eyes/Face**

Eye protection not required under normal conditions.

Protective Clothing

Protective clothing is not required under normal conditions.

Glove Recommendations

Protective gloves are not required under normal conditions.

Respiratory Protection

No respirator is required under normal conditions of use.

Safety Data Sheet

Material Name: CRAYOLA® MODEL MAGIC; FUSION

SDS ID: BNSSS002

*****Section 9 - PHYSICAL AND CHEMICAL PROPERTIES*****

Physical State:	Solid	Appearance:	Not available
Color:	white, various colors	Physical Form:	semi-solid gel
Odor:	faint odor	Odor Threshold:	Not available
pH:	5.5 - 7.0	Melting Point:	Not available
Boiling Point:	Not applicable	Vapor Pressure:	Not applicable
Vapor Density (air = 1):	Not applicable	Density:	Not available
Specific Gravity (water = 1):	0.4 - 0.5	Water Solubility:	Not available
Coeff. Water/Oil Dist:	Not available		

*****Section 10 - STABILITY AND REACTIVITY*******Chemical Stability**

Stable at normal temperatures and pressure.

Conditions to Avoid

None reported.

Materials to Avoid

oxidizing materials

Decomposition Products

oxides of carbon

Possibility of Hazardous Reactions

Will not polymerize.

*****Section 11 - TOXICOLOGICAL INFORMATION*******Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, or DFG.

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

*****Section 12 - ECOLOGICAL INFORMATION*******Component Analysis - Aquatic Toxicity**

No LOLI ecotoxicity data are available for this product's components.

*****Section 13 - DISPOSAL CONSIDERATIONS*******Disposal Methods**

Dispose in accordance with all applicable regulations.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Safety Data Sheet

Material Name: CRAYOLA® MODEL MAGIC; FUSION

SDS ID: BNSSS002

*****Section 14 - TRANSPORT INFORMATION*******US DOT Information**

No Classification assigned.

TDG Information

No Classification assigned.

ADR Information

No Classification assigned.

RID Information

No Classification assigned.

IATA Information

No Classification assigned.

ICAO Information

No Classification assigned.

IMDG Information

No Classification assigned.

*****Section 15 - REGULATORY INFORMATION*******U.S. Federal Regulations**

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: No Chronic Health: No Fire: No Pressure: No Reactive: No

U.S. State Regulations

None of this product's components are listed on the state lists from CA, MA, MN, NJ or PA.

Not regulated under California Proposition 65

Canada

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS CLASSIFICATION: Not a Controlled Product under Canada's Workplace Hazardous Material Information System.

Component Analysis - Inventory

No information is available.

Safety Data Sheet

Material Name: CRAYOLA® MODEL MAGIC; FUSION

SDS ID: BNSSS002

Section 16 - OTHER INFORMATION

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

End of Sheet BNSSS002

Material Safety Data Sheet

Product Name: PORTFOLIO SERIES(TM) ACRYLIC PAINT

Product Family:

1. Chemical Product and Company Identification

CRAYOLA LLC
1100 CHURCH LANE
EASTON, PA 18044
1-800-272-9652

EMERGENCY TELEPHONE NUMBER:
1-800-535-5053
or call local POISON CONTROL CENTER

SUBSTANCE: PORTFOLIO SERIES(TM) ACRYLIC PAINT

TRADE NAMES/SYNONYMS:

PORTFOLIO SERIES ACRYLIC PAINT; PRODUCT COLORS/CODES: 20-4016; 20-4032; 100-PEARLESCENT MIXING; 113-LIGHT RED; 115-DEEP RED; 127-BURNT SIENA; 128-BURNT UMBER; 186-VIOLET; 244-IVORY BLACK; 300-DEEP MAGENTA; 313-LIGHT GREEN; 316-PHTHALO BLUE; 317-PHTHALO GREEN; 335-RED OXIDE; 381-BRILLIANT BLUE PURPLE; 411-LIGHT YELLOW; 432-TITANIUM WHITE; 434-UNBLEACHED TITANIUM; 500-MEDIUM MAGENTA; 530-BRONZE YELLOW; 570-BRILLANT BLUE; 590-BRILLANT PURPLE; 599-MEDIUM GRAY; 660-BRIGHT AQUA GREEN; 720-BRILLANT ORANGE; 730-TURNER'S YELLOW; 830-BRILLANT YELLOW; BIG YELLOW BOX PAINT AND SKATE 78-1330-0-000; GARDEN FLAGS 78-1000-0-000; MAKE YOUR OWN SOCCER BALL 78-1080-0-001; BNSSS187

PRODUCT USE: Arts and Crafts

CREATION DATE: Nov 18 1997

REVISION DATE: Jun 17 2004

2. Composition, Information on Ingredients

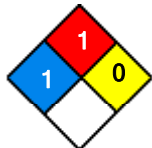
COMPONENT: Product has been certified as non-toxic by The Art and Creative Materials Institute, Inc. and conforms to ASTM D-4236 Standard Practice for Labeling Art Materials for Acute and Chronic Adverse Health Hazards.

CAS NUMBER: Not assigned.

EC NUMBER: Not assigned.

PERCENTAGE: 100

3. Hazards Identification



NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=1 REACTIVITY=0

EMERGENCY OVERVIEW:

COLOR: various colors

PHYSICAL FORM: liquid

ODOR: odorless

MAJOR HEALTH HAZARDS: No significant target effects reported.

POTENTIAL HEALTH EFFECTS:

INHALATION:

none

SKIN CONTACT:

none

EYE CONTACT:

none

INGESTION:

none

CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: No

4. First Aid Measures

INHALATION: It is unlikely that emergency treatment will be required. Remove from exposure. Get medical attention, if needed.

SKIN CONTACT: It is unlikely that emergency treatment will be required. If adverse effects occur, wash with soap or mild detergent and large amounts of water. Get medical attention, if needed.

EYE CONTACT: It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.

INGESTION: Contact local poison control center or physician immediately.

5. Fire Fighting Measures

FIRE AND EXPLOSION HAZARDS: Slight fire hazard.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water, regular foam

FIRE FIGHTING: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

FLASH POINT: No data available.

6. Accidental Release Measures

OCCUPATIONAL RELEASE:

Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

7. Handling and Storage

STORAGE: Store and handle in accordance with all current regulations and standards. See original container for storage recommendations. Keep separated from incompatible substances.

8. Exposure Controls, Personal Protection

EXPOSURE LIMITS:

PORTFOLIO SERIES(TM) ACRYLIC PAINT:

Material Safety Data Sheet

No occupational exposure limits established.

VENTILATION: Based on available information, additional ventilation is not required.

EYE PROTECTION: Eye protection not required under normal conditions.

CLOTHING: Protective clothing is not required under normal conditions.

GLOVES: Protective gloves are not required under normal conditions.

RESPIRATOR: No respirator is required under normal conditions of use.
Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

9. Physical and Chemical Properties

PHYSICAL STATE: liquid
COLOR: various colors
ODOR: odorless
BOILING POINT: Not available
FREEZING POINT: Not available
VAPOR PRESSURE: Not available
VAPOR DENSITY: Not available
SPECIFIC GRAVITY: Not available
WATER SOLUBILITY: Not available
PH: Not available
VOLATILITY: Not available
ODOR THRESHOLD: Not available
EVAPORATION RATE: Not available
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

10. Stability and Reactivity

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: None reported.

INCOMPATIBILITIES: oxidizing materials

HAZARDOUS DECOMPOSITION:
Thermal decomposition products: oxides of carbon

POLYMERIZATION: Will not polymerize.

11. Toxicological Information

Not available

12. Ecological Information

Not available

13. Disposal Considerations

Dispose in accordance with all applicable regulations.

14. Transport Information

U.S. DEPARTMENT OF TRANSPORTATION: No classification assigned.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

LAND TRANSPORT ADR: No classification assigned.

LAND TRANSPORT RID: No classification assigned.

AIR TRANSPORT IATA: No classification assigned.

AIR TRANSPORT ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

15. Regulatory Information

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):
Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):
Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):
ACUTE: No
CHRONIC: No
FIRE: No
REACTIVE: No
SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED): Not determined.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

16. Other Information

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Safety Data Sheet

Material Name: CRAYOLA® PREMIER & ARTISTA II® TEMPERA
PAINTS

SDS ID: BNSSS201

* * *Section 1 - PRODUCT AND COMPANY IDENTIFICATION* * *

Material Name: CRAYOLA® PREMIER & ARTISTA II® TEMPERA PAINTS

Manufacturer Information

CRAYOLA LLC
1100 Church Lane
Easton, PA 18044
Mfg Contact: support@crayola.com

Phone: 1-800-272-9652

Emergency # 1-800-535-5053 or call local POISON CONTROL

Synonyms

CRAYOLA PREMIER & ARTISTA II TEMPERA PAINTS; PRODUCT COLORS/CODES: CRAYOLA PREMIER TEMPERA- 54-1106, 54-1116, 54-1206, 54-1208, 54-1208G, 54-1208S, 54-1216, 54-1216G, 54-1216S, 54-1232, 54-1264,; ARTISTA II TEMPERA- 54-3115, 54-3115F (STANDARD & FLUORESCENT), 54-3128, 54-3132, 54-3164; BLACK, BLUE, BROWN, GOLD (CRAYOLA), GREEN, MAGENTA, ORANGE, PEACH, RED, SILVER (CRAYOLA), TURQUOISE BLUE, VIOLET, WHITE, YELLOW, FLUORESCENT BLUE, FLUORESCENT GREEN, FLUORESCENT PINK, FLUORESCENT RED, FLUORESCENT ORANGE-YELLOW, FLUORESCENT YELLOW, FLUORESCENT MAGENTA, FLUORESCENT ORANGE, FLUORESCENT ORANGE-RED, FLUORESCENT CHARTREUSE; 44-1997-0-042 BLUE; 44-1997-0-044 GREEN; BIG YELLOW BOX FRIENDS ON THE FLY-BUTTERFLIES (78-1240-0-000); FRIENDS ON THE FLY-SEA CREATURES (78-1250-0-000); JUST IN CHIME (78-1280-0-000); 54-3108, 54-3181, 54-3182, 54-3183; 54-8516, 54-8216; CRAYOLA PREMIER BLUE AND GREEN TEMPERA

Product Use

Arts and Crafts

* * *Section 2 - HAZARDS IDENTIFICATION* * *

EMERGENCY OVERVIEW

Color: various colors

Physical Form: liquid

Odor: odorless

POTENTIAL HEALTH EFFECTS

Inhalation: none

Skin Contact: none

Eye Contact: none

Ingestion: none

* * *Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS* * *

CAS	Component	Percent	Symbol(s)	Risk Phrase(s)
Not Available	Product has been certified as non-toxic by the art and creative materials institute, inc. and conforms to astm D-4236 standard practice for labeling art materials for acute and chronic adverse health hazards.	100	---	---

Safety Data Sheet

Material Name: CRAYOLA® PREMIER & ARTISTA II® TEMPERA
PAINTS

SDS ID: BNSSS201

Section 4 - FIRST AID MEASURES

Inhalation

It is unlikely that emergency treatment will be required. Remove from exposure. Get medical attention, if needed.

Skin

It is unlikely that emergency treatment will be required. If adverse effects occur, wash with soap or mild detergent and large amounts of water. Get medical attention, if needed.

Eyes

It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.

Ingestion

Contact local poison control center or physician immediately.

Section 5 - FIRE FIGHTING MEASURES

See Section 9 for Flammability Properties

NFPA Ratings: Health: 1 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Slight fire hazard.

Extinguishing Media

regular dry chemical, carbon dioxide, water, regular foam

Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

Section 6 - ACCIDENTAL RELEASE MEASURES

Occupational spill/release

Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

Section 7 - HANDLING AND STORAGE

Storage Procedures

Store and handle in accordance with all current regulations and standards. See original container for storage recommendations. Keep separated from incompatible substances.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

ACGIH and EU have not developed exposure limits for any of this product's components.

Ventilation

Based on available information, additional ventilation is not required.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Eye protection not required under normal conditions.

Protective Clothing

Protective clothing is not required under normal conditions.

Safety Data Sheet

Material Name: CRAYOLA® PREMIER & ARTISTA II® TEMPERA
PAINTS

SDS ID: BNSSS201

Glove Recommendations

Protective gloves are not required under normal conditions.

Respiratory Protection

No respirator is required under normal conditions of use.

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	Appearance:	Not available
Color:	various colors	Physical Form:	liquid
Odor:	odorless	Odor Threshold:	Not available
pH:	Not available	Melting Point:	Not available
Boiling Point:	Not available	Flash Point:	No data available
Evaporation Rate:	Not available	Vapor Pressure:	Not available
Vapor Density (air = 1):	Not available	Density:	Not available
Specific Gravity (water = 1):	Not available	Water Solubility:	Not available
Coeff. Water/Oil Dist:	Not available	Viscosity:	Not available
Volatility:	Not available		

Section 10 - STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

None reported.

Materials to Avoid

oxidizing materials

Decomposition Products

oxides of carbon

Possibility of Hazardous Reactions

Will not polymerize.

Section 11 - TOXICOLOGICAL INFORMATION

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, or DFG.

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Safety Data Sheet

Material Name: CRAYOLA® PREMIER & ARTISTA II® TEMPERA
PAINTS

SDS ID: BNSSS201

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information

No Classification assigned.

TDG Information

No Classification assigned.

ADR Information

No Classification assigned.

RID Information

No Classification assigned.

IATA Information

No Classification assigned.

ICAO Information

No Classification assigned.

IMDG Information

No Classification assigned.

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: No Chronic Health: No Fire: No Pressure: No Reactive: No

U.S. State Regulations

None of this product's components are listed on the state lists from CA, MA, MN, NJ, PA, or RI.

Not regulated under California Proposition 65

Canada

Component Analysis - Inventory

No information is available.

Safety Data Sheet

Material Name: CRAYOLA® PREMIER & ARTISTA II® TEMPERA
PAINTS

SDS ID: BNSSS201

* * *Section 16 - OTHER INFORMATION* * *

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

End of Sheet BNSSS201

Safety Data Sheet

Material Name: CRAYOLA® WASHABLE PAINT

SDS ID: BNSSS178

* * *Section 1 - PRODUCT AND COMPANY IDENTIFICATION* * *

Material Name: CRAYOLA® WASHABLE PAINT

Manufacturer Information

CRAYOLA LLC
1100 Church Lane
Easton, PA 18044
Mfg Contact: support@crayola.com

Phone: 1-800-272-9652

Emergency # 1-800-535-5053 or call local POISON CONTROL

Synonyms

CRAYOLA WASHABLE PAINT INCLUDING ASST. NEONS; WASHABLE KID'S PAINT; PRODUCT COLORS/CODES: 04-1951; 44-1205-7; 54-0100; 54-0101; 54-0105; 54-0116; 54-0117; 54-0125; 54-0126; 54-0150; 54-2016; 54-2036; 54-2128; 54-2129; 54-208W; 54-1205; 54-1204; 54-1828; 54-2006; 54-2508; 54-2551; 54-2553; 54-9718; 038-RED; 034-ORANGE; 044-GREEN; 042-BLUE; 019-MAHOGANY; 062-OLIVE; 040-VIOLET; 007-BROWN; 051-BLACK; 033-PEACH; 006-BRONZE; 070-BEIGE; 069-MAGENTA; 048-TURQUOISE; 034-YELLOW; 053-WHITE; 064-TERRACOTTA; 077-TAN; 397-PINK; 398-ORANGE; 395-GREEN; 394-YELLOW; BIG YELLOW BOX WOODEN ORNAMENTS (78-1090-0-000); (3926, 3927, 3978)

Product Use

Arts and Crafts

* * *Section 2 - HAZARDS IDENTIFICATION* * *

EMERGENCY OVERVIEW

Color: various colors

Physical Form: liquid

Odor: odorless

POTENTIAL HEALTH EFFECTS

Inhalation: none

Skin Contact: none

Eye Contact: none

Ingestion: none

* * *Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS* * *

CAS	Component	Percent	Symbol(s)	Risk Phrase(s)
Not Available	Product has been certified as non-toxic by the art and creative materials institute, inc. and conforms to astm D-4236 standard practice for labeling art materials for acute and chronic adverse health hazards.	100	---	---

* * *Section 4 - FIRST AID MEASURES* * *

Inhalation

It is unlikely that emergency treatment will be required. Remove from exposure. Get medical attention, if needed.

Safety Data Sheet

Material Name: CRAYOLA® WASHABLE PAINT

SDS ID: BNSSS178

Skin

It is unlikely that emergency treatment will be required. If adverse effects occur, wash with soap or mild detergent and large amounts of water. Get medical attention, if needed.

Eyes

It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.

Ingestion

Contact local poison control center or physician immediately.

* * *Section 5 - FIRE FIGHTING MEASURES* * *

See Section 9 for Flammability Properties

NFPA Ratings: Health: 1 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Slight fire hazard.

Extinguishing Media

regular dry chemical, carbon dioxide, water, regular foam

Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

* * *Section 6 - ACCIDENTAL RELEASE MEASURES* * *

Occupational spill/release

Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

* * *Section 7 - HANDLING AND STORAGE* * *

Storage Procedures

Store and handle in accordance with all current regulations and standards. See original container for storage recommendations. Keep separated from incompatible substances.

* * *Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION* * *

Component Exposure Limits

ACGIH and EU have not developed exposure limits for any of this product's components.

Ventilation

Based on available information, additional ventilation is not required.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Eye protection not required under normal conditions.

Protective Clothing

Protective clothing is not required under normal conditions.

Glove Recommendations

Protective gloves are not required under normal conditions.

Respiratory Protection

No respirator is required under normal conditions of use.

Safety Data Sheet

Material Name: CRAYOLA® WASHABLE PAINT

SDS ID: BNSSS178

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	Appearance:	Not available
Color:	various colors	Physical Form:	liquid
Odor:	odorless	Odor Threshold:	Not available
pH:	Not available	Melting Point:	Not available
Boiling Point:	Not available	Flash Point:	No data available
Evaporation Rate:	Not available	Vapor Pressure:	Not available
Vapor Density (air = 1):	Not available	Density:	Not available
Specific Gravity (water = 1):	Not available	Water Solubility:	Not available
Coeff. Water/Oil Dist:	Not available	Viscosity:	Not available
Volatility:	Not available		

Section 10 - STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

None reported.

Materials to Avoid

oxidizing materials

Decomposition Products

oxides of carbon

Possibility of Hazardous Reactions

Will not polymerize.

Section 11 - TOXICOLOGICAL INFORMATION

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, or DFG.

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations.

Safety Data Sheet

Material Name: CRAYOLA® WASHABLE PAINT

SDS ID: BNSSS178

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

* * *Section 14 - TRANSPORT INFORMATION* * *

US DOT Information

No Classification assigned.

TDG Information

No Classification assigned.

ADR Information

No Classification assigned.

RID Information

No Classification assigned.

IATA Information

No Classification assigned.

ICAO Information

No Classification assigned.

IMDG Information

No Classification assigned.

* * *Section 15 - REGULATORY INFORMATION* * *

U.S. Federal Regulations

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: No Chronic Health: No Fire: No Pressure: No Reactive: No

U.S. State Regulations

None of this product's components are listed on the state lists from CA, MA, MN, NJ, PA, or RI.

Not regulated under California Proposition 65

Canada

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS CLASSIFICATION: Not a Controlled Product under Canada's Workplace Hazardous Material Information System.

Component Analysis - Inventory

No information is available.

Safety Data Sheet

Material Name: CRAYOLA® WASHABLE PAINT

SDS ID: BNSSS178

* * *Section 16 - OTHER INFORMATION* * *

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

End of Sheet BNSSS178

MATERIAL SAFETY DATA SHEET (SIMILAR TO OSHA FORM 174)

N.A.=Not Applicable
Not Est.=Not Established
Prop.=Proprietary

SECTION 1-MANUFACTURER/DISTRIBUTOR INFORMATION

Product Name: Creme Cleanser

Supplier's Name: INDCO, Inc.

Supplier's Address: N. Railroad & Essex St., Gloucester City, NJ 08030

HMIS Hazard Code: Health:2 Flammability:0 Reactivity:0 Other:0

Chemical Family: Creme Paste Cleaner

D.O.T. Shipping Name: N/A

Emergency Phone #(856)456-6100

Chemical Name: Blended Cleaner

Formula: N.A. Blended Product

Hazard Class: N/A

D.O.T. ID#: N/A

SECTION 2-HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NO.	% Concentrate Range	Hazard Ratings (TLV/PEL)
Crystalline-Quartz Silica	14808-60-7	PROP.	0.1 mg/m ³
Oxalic Acid	144-62-7	PROP.	Not Est.

SECTION 3-PHYSICAL DATA

Boiling Point (F): 212°
Vapor Pressure: = To Water
Vapor Density: = To Water
Solubility In Water: 72%
Appearance: Opaque, Viscous,
 Blue Suspension
Odor: Floral

Specific Gravity: 1.200
Evaporation Rate: = To
 Water

SECTION 4-FIRE AND EXPLOSION DATA

Flash Point (F): None To Boiling (TOC)
Flammable Limits: N.A.
Unusual Fire & Explosion Hazards: None

SECTION 5-HEALTH HAZARD DATA

Route(s) of Entry: Inhalation:No Skin:Yes Ingestion:Yes **Threshold Limit Value:** Not Est.

Effects of Overexposure: May cause skin and eye irritation. Harmful if swallowed. Ingestion may cause severe gastric distress and toxic reaction.

Emergency & First Aid Procedures: **For Eyes:** Flush with water for at least fifteen minutes. Do not rub eyes. Get medical aid. **For Skin:** Wash with water and apply emollient creme. If irritation persists get medical aid. **If Ingested:** Induce vomiting with ipecac syrup, or if not available use finger in throat. Give large quantities of water. Get medical aid.

Conditions Aggravated by Exposure: None

Listed Carcinogen, Mutagen, Teratogen (Ingredient, Source, Amount): None

SECTION 6-REACTIVITY DATA

Stability: Stable
Conditions to Avoid: None
Incompatibility: Avoid Acids and Oxidizers
Hazardous Decomposition Products: Carbon Oxides,
 Ammonia, Amines
Hazardous Polymerization: Will not occur.

SECTION 7-SPILL OR LEAK PROCEDURES

Steps to be taken if material is released or spilled:
 Recontainerize by mopping, wet vacuum, or using a suitable
 absorbent. Rinse remaining material to drains.
Waste disposal method: Follow label instructions, local,
 state, and federal regulations.

SECTION 8-SPECIAL PROTECTION INFORMATION

Respiratory Protection: Not required.
Ventilation: Not required.
Protective Gloves: Not required.
Eye Protection: Not required.
Other Protective Equipment: Not required.

SECTION 9-SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store
 between 40° and 120° F.
Other Precautions: It is a violation of federal law to use this
 product in a manner inconsistent with its labeling. Keep out of
 reach of children. For sale to, use and storage by service person-
 nel only.

The information contained in this MSDS was obtained from current and reliable sources, however the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions of handling, storage and disposal of this product are beyond the control of this company, it is not responsible for loss, injury and expense arising out of the product's improper use. No warranty, expressed or implied, regarding the product described in this MSDS shall be created or inferred by any statement in this MSDS. Various government agencies may have specific regulations regarding the transportation, handling, storage, use or disposal of this product which may not be covered by this MSDS. The user is responsible for full compliance.

DATE PREPARED-10/5/00 By: G.C.

Safety Data Sheet

SECTION 1 -- IDENTIFICATION

Product Name: Critical Care
Issue Date: 1/9/2015
Date Revised: NA
Distributed By: EnviroX
1938 E. Fairchild St.
Danville, IL. 61832
800-281-9604



Recommended Uses: Ready To Use Hard Surface Disinfectant.

In Case of Emergency: Have the product container or label with you when calling a poison control center or doctor. You may contact CHEMTREC 1-800-424-9300 for emergency medical treatment information.

SECTION 2 -- HAZARDS IDENTIFICATION

GHS Classification – Not Classified

Unclassified Hazards: May cause slight eye irritation

Precautionary Statements: Avoid direct skin and eye contact. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

HMIS Rating

Health	0
Flammability	0
Reactivity	0

SECTION 3 -- COMPOSITION / INFORMATION ON INGREDIENTS

Components: The specific chemical identities and exact percentages (concentrations) of composition have been withheld as a trade secret.

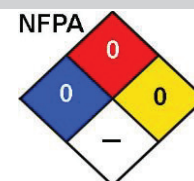
None of the ingredients is considered hazardous according to the criteria of 29CFR1910.1200 and DOT Reg 49 CFR 172. Ingredients are listed for informational purposes to assist emergency medical response personnel.	Wt%
Water (CAS No. 7732-18-5)	> 95
Citric Acid (CAS No. 77-92-9)	< 5.0
Silver Ions	0.0030

SECTION 4 -- FIRST-AID MEASURES

Eye Contact: Hold eyelids open and flush thoroughly with a steady, gentle stream of water for at least 15 minutes. If irritation persists consult a physician.
Skin Contact: Rinse with water. If irritation persists consult a physician.
Inhalation: If breathing is affected, remove victim to fresh air and consult a physician.
Ingestion: If irritation or discomfort occurs, call a physician. DO NOT INDUCE VOMITING.

SECTION 5 -- FIRE-FIGHTING MEASURES

Flammability: Not flammable or combustible.
Flammable Limits: Not applicable.
Extinguishing Media: Not applicable.
Fire and Explosion Hazards: None.



SECTION 6 -- ACCIDENTAL RELEASE MEASURES

Response to Spills: SMALL SPILLS: Contain spill, flush to sanitary sewer, and rinse area with water. LARGE SPILLS: Dike or dam spill, pump to containers or soak up with inert absorbent, and prevent runoff to creeks and waterways. Personal Protective Equipment is not normally required. Avoid contact with eyes.

SECTION 7 -- HANDLING AND STORAGE

Handling Precautions: Close container tightly when not in use.
Storage Precautions: Store in a cool, dry place. Do not contaminate food, feed, or drinking water. Keep from freezing. Keep out of direct sunlight.

SECTION 8 -- EXPOSURE CONTROLS / PERSONAL PROTECTION

No special protection or precautions have been identified for using this product under directed consumer use conditions. The following recommendations are given for production facilities and for other conditions and situations where there is increased potential for accidental, large-scale or prolonged exposure.

Hygienic Practices: Avoid direct eye and skin contact. If irritation occurs, flush thoroughly with water. When product is applied to a floor surface, signage should be used to indicate slippery areas until they are dry.
Engineering Controls: Use general ventilation to minimize exposure to mist. Eyewash station is suggested.
Personal Protective Equipment: Not normally required. If contact is likely for prolonged or repeated contact, eye and hand protection is recommended.

SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless liquid	Boiling Point	Not established
Odor	Practically Odorless	Freezing Point	Not established
pH	2	Evaporation Rate (Butyl Acetate=1)	Not established
Specific Gravity (H₂O=1)	Similar to water	Vapor Density (Air=1)	Not established
Solubility	Water soluble	Vapor Pressure (mmHg)	Not established
VOC Content (% Wt.)	0.00% (0.000 lbs/gallon)		

SECTION 10 -- STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Incompatibility:	Not applicable.
Hazardous Decomposition:	None.
Polymerization:	None.
Conditions to Avoid:	Not applicable.

SECTION 11 -- TOXICOLOGICAL INFORMATION

THIS PRODUCT DOES NOT CONTAIN ANY KNOWN OR ANTICIPATED CARCINOGENS ACCORDING TO THE CRITERIA OF THE NTP ANNUAL REPORT ON CARCINOGENS, OSHA 29 CFR 1910.1000, SUBPART Z, OR THE IARC MONOGRAPHS.

Acute Oral, Rat	LD50>5000 mg/Kg	Epidemiology	None Known
Acute Dermal, Rat	LD50>5000 mg/Kg	Teratogenicity	None Known
Primary Eye Irritation	Rabbit – Category IV	Neurotoxicity	None Known
Primary Eye Irritation	Rabbit – Slightly Irritating	Dermal Sensitization	Guinea Pigs – Not a contact sensitizer
Subchronic/Chronic Toxicity: Does not contain any recognized carcinogens, mutagens or reproductive toxicants.			

SECTION 12 -- ECOLOGICAL INFORMATION

Ecotoxicity:	None.
Environmental Fate:	Readily degraded. Ionic silver is degraded into inert elemental silver or insoluble silver complexes in the environment.

SECTION 13 -- DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Dispose of in accordance with local, state, and federal regulations.
RCRA Classification:	Non-hazardous.

SECTION 14 -- TRANSPORT INFORMATION

DOT Classification:	Non-hazardous.
Exceptions:	None.
Description:	Not applicable.

SECTION 15 -- REGULATORY INFORMATION

TSCA:	TSCA Inventory: All components are listed. TSCA Health and Safety Reporting List: None of the components are listed. TSCA Chemical Test Rules: None of the components are listed. TSCA Section 12b: None of the components are listed. TSCA Significant New Use Rule: None of the components has a SNUR.
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CERCLA: No RQ was assigned to silver compounds. See 50FR13456 (April 4, 1985).

ARA 302/304: None of the components has a RQ or a TPQ.

SARA 311/312: None of the components are reportable.

Clean Air: None of the components are a Hazardous Air Pollutant, Class 1 Ozone Depletor, or Class 2 Ozone Depletor.

Clean Water Act: None of the components are a Hazardous Substance, Priority Pollutant, or Toxic Pollutant.

OSHA: None of the components are considered hazardous.

California Proposition 65: None of the components are listed.

SECTION 16 -- OTHER INFORMATION

ID:	M5040
Issue Date (Rev):	January 9, 2015

Revision Summary: NA

COMPANY IDENTITY: SolvChem, Inc.
 PRODUCT IDENTITY: CROWN LACQUER THINNER
 SDS NUMBER: CROWNLT

SDS DATE: 11/19/2012
 ORIGINAL: 11/19/2012

SAFETY DATA SHEET

This Safety Data Sheet conforms to ANSI Z400.5, and to the format requirements and the International Chemical Safety Cards of the Global Harmonizing System.

THIS SDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD)

IMPORTANT: Read this SDS before handling & disposing of this product.

Pass this information on to employees, customers, & users of this product.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

PRODUCT IDENTITY: CROWN LACQUER THINNER
 COMPANY IDENTITY: SolvChem, Inc.
 COMPANY ADDRESS: 1904 Mykawa Road
 COMPANY CITY: Pearland, TX 77581-0490
 COMPANY PHONE: 1-281-485-5377
 EMERGENCY PHONES: CHEMTREC: 1-800-424-9300 (USA)
 CANUTEC: 1-613-996-6666 (CANADA)

SECTION 2. HAZARDS IDENTIFICATION

DANGER!!



EXPOSURE PREVENTION: STRICT HYGIENE!

AVOID EXPOSURE OF (PREGNANT) WOMEN, ADOLESCENTS, CHILDREN!

HAZARD STATEMENTS:

H100s = General, H200s = Physical, H300s = Health, H400s = Environmental

H224 Extremely flammable liquid and vapor.
 H301 Toxic if swallowed.
 H304 May be fatal if swallowed and enters airways.
 H311 Toxic in contact with skin.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H331 Toxic if inhaled.
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H361 Suspected of damaging fertility or the unborn child.
 H370 Causes damage to organs.
 H410 Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

P100s = General, P200s = Prevention, P300s = Response, P400s = Storage, P500s = Disposal

P210 Keep away from heat/sparks/open flames/hot surfaces - No smoking.
 P243 Take precautionary measures against static discharge.
 P260 Do not breathe dust/fume/gas/mist/vapors/spray.
 P262 Do not get in eyes, on skin, or on clothing.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 P309+311 If exposed or you feel unwell: Call a POISON CENTER or doctor/physician.
 P403 Store in a well-ventilated place.
 P404 Store in a closed container.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL	CAS#	EINECS#	WT %
Methanol	67-56-1	200-659-6	25-35
Heptane	142-82-5	205-563-8	20-30
Acetone	67-64-1	200-662-2	15-25
Toluene	108-88-3	203-625-9	10-15
2-Butoxyethanol	111-76-2	203-905-0	0- 5

SEE SECTIONS 8, 11 & 12 FOR TOXICOLOGICAL INFORMATION.

COMPANY IDENTITY: SolvChem, Inc.
 PRODUCT IDENTITY: CROWN LACQUER THINNER
 SDS NUMBER: CROWNLT

SDS DATE: 11/19/2012
 ORIGINAL: 11/19/2012

Trace components: Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, reproductive toxins, respiratory tract mutagens, and sensitizers). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents, and Canadian Hazardous Materials Identification System Standard (CPR 4).

SECTION 4. FIRST AID MEASURES

EYE CONTACT:

If this product enters the eyes, open eyes while under gently running water. Use sufficient force to open eyelids. "Roll" eyes to expose more surface. Minimum flushing is for 15 minutes. Seek immediate medical attention.

SKIN CONTACT:

If the product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. If skin becomes irritated and irritation persists, medical attention may be necessary. Wash contaminated clothing before reuse, discard contaminated shoes.

INHALATION:

After high vapor exposure, remove to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. Breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR). Seek immediate medical attention. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

SWALLOWING:

Do not induce vomiting. GET MEDICAL ATTENTION IMMEDIATELY. If person is fully conscious give 1 cup or 8 ounces of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3-1/2 cup) (90-120 ml) of hard liquor such as 80 proof whiskey. For children, give proportionally less liquor at a dose of 0.3 ounce (1 1/2 tsp) (8 ml) liquor for each 10 pounds of body weight, or 2 ml per kg body weight (for example: 1.2 ounce (2 1/3 tablespoon) for a 40 pound child or 36 ml for an 18 kg child).

NOTES TO PHYSICIAN:

In cases where several ounces (60 - 100 ml) have been ingested, consider the use of ethanol and hemodialysis in the treatment. Consult standard literature for details of treatment. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol TM) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol, di- or triethylene glycol, ethylene glycol butyl ether, or methanol intoxication if available. Fomepizol protocol (Brent, J. et al, New England Journal of Medicine, Feb 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizol until serum methanol, EG, DEG, or TEG are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Folate may be administered to enhance the metabolism of formaldehyde. Acidosis must be treated by means of intravenous sodium bicarbonate. Maintain adequate ventilation and oxygenation of the patient. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably an ophthalmologist.

COMPANY IDENTITY: SolvChem, Inc.
PRODUCT IDENTITY: CROWN LACQUER THINNER
SDS NUMBER: CROWNLT

SDS DATE: 11/19/2012
ORIGINAL: 11/19/2012

SECTION 4. FIRST AID MEASURES (CONTINUED)

NOTES TO PHYSICIAN (CONTINUED):

If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighted against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5. FIRE FIGHTING MEASURES

FIRE & EXPLOSION PREVENTIVE MEASURES

NO open flames, NO sparks, & NO smoking. Above flash point, use a closed system, ventilation, explosion-proof electrical equipment, lighting. Do NOT use compressed air for filling, discharging, or handling.

EXTINGUISHING MEDIA

Use dry powder, AFFF, alcohol-resistant foam, water spray, water in large amounts, CO₂.

SPECIAL FIRE FIGHTING PROCEDURES

Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used. Do not enter confined fire-space without full bunker gear. (Helmet with face shield, bunker coats, gloves & rubber boots). Use NIOSH approved positive-pressure self-contained breathing apparatus.

UNUSUAL EXPLOSION AND FIRE PROCEDURES

EXTREMELY FLAMMABLE!! VAPORS CAN CAUSE FLASH FIRE
Isolate from oxidizers, heat, sparks, electric equipment & open flame.
Closed containers may explode if exposed to extreme heat.
Applying to hot surfaces requires special precautions.
Empty container very hazardous! Continue all label precautions!

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE AND ENVIRONMENTAL PRECAUTIONS:

Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel.

PERSONAL PROTECTIVE EQUIPMENT

The proper personal protective equipment for incidental releases (such as: 1 Liter of the product released in a well-ventilated area), use impermeable gloves (triple-gloves (rubber gloves and nitrile gloves, over latex gloves), goggles, face shield, and appropriate body protection. In the event of a large release, use impermeable gloves, specific for the material handled, chemically resistant suit and boots, and hard hat. Self-Contained Breathing Apparatus or respirator may be required where engineering controls are not adequate or conditions for potential exposure exist. When respirators are required, select NIOSH/MSHA approved based on actual or potential airborne concentrations in accordance with latest OSHA and/or ANSI recommendations.

ENVIRONMENTAL PRECAUTIONS:

Stop spill at source. Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of the material. Close or cap valves and/or block or plug hole in leaking container and transfer to another container. Keep from entering storm sewers and ditches which lead to waterways, and if necessary, call the local fire or police department for immediate emergency assistance.

CONTAINMENT AND CLEAN-UP MEASURES:

Absorb spilled liquid with polypads or other suitable absorbent materials. If necessary, neutralize using suitable buffering material, (acid with soda ash or base with phosphoric acid), and test area with litmus paper to confirm neutralization. Clean up with non-combustible absorbent (such as: sand, soil, and so on). Shovel up and place all spill residue in suitable containers. dispose of at an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal (see Section 13 - Disposal Considerations).

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SECTION 7. HANDLING AND STORAGE

HANDLING

Isolate from oxidizers, heat, sparks, electric equipment & open flame.
Use only with adequate ventilation. Avoid breathing of vapor or spray mist.
Do not get in eyes, on skin or clothing. Wear OSHA Standard goggles or face shield.
Consult Safety Equipment Supplier. Wear goggles, face shield, gloves, apron & footwear impervious to material. Wash clothing before reuse.
Avoid free fall of liquid. Ground containers when transferring. Do not flame cut, saw, drill, braze, or weld. Empty container very hazardous! Continue all label precautions!

STORAGE

Vapors may ignite explosively & spread long distances. Prevent vapor buildup. Put out pilot lights & turn off heaters, electric equipment & other ignition sources during use & until all vapors are gone. Keep in fireproof surroundings. Keep separated from strong oxidants, food & feedstuffs. Keep cool. Do not store above 49 C/120 F.
Keep container tightly closed & upright when not in use to prevent leakage.

NONBULK: CONTAINERS:

Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Post warning and "NO SMOKING" signs in storage and use areas, as appropriate. Empty containers should be handled with care. Never store food, feed, or drinking water in containers which held this product.

BULK CONTAINERS:

All tanks and pipelines which contain this material must be labeled. Perform routine maintenance on tanks or pipelines which contain this product. Report all leaks immediately to the proper personnel.

TANK CAR SHIPMENTS:

Tank cars carrying this product should be loaded and unloaded in strict accordance with tank-car manufacturer's recommendation and all established on-site safety procedures. Appropriate personal protective equipment must be used (see Section 8, Engineering Controls and Personal Protective Equipment.). All loading and unloading equipment must be inspected, prior to each use. Loading and unloading operations must be attended, at all times. Tank cars must be level, brakes must be set or wheels must be locked or blocked prior to loading or unloading. Tank car (for loading) or storage tanks (for unloading) must be verified to be correct for receiving this product and be properly prepared, prior to starting the transfer operations. Hoses must be verified to be in the correct positions, before starting transfer operations. A sample (if required) must be taken and verified (if required) prior to starting transfer operations. All lines must be blown-down and purged before disconnecting them from the tank car or vessel.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:

Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Collect all rinsates and dispose of according to applicable Federal, State, Provincial, or local procedures.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

MATERIAL	CAS#	EINECS#	TWA (OSHA)	TLV (ACGIH)
Methanol	67-56-1	200-659-6	200 ppm S	200 ppm S
Heptane	142-82-5	205-563-8	500 ppm	400 ppm
Acetone	67-64-1	200-662-2	1000 ppm	500 ppm A4
Toluene	108-88-3	203-625-9	200 ppm	50 ppm A4
2-Butoxyethanol	111-76-2	203-905-0	50 ppm S	20 ppm S

MATERIAL	CAS#	EINECS#	CEILING	STEL (OSHA/ACGIH)	HAP
Methanol	67-56-1	200-659-6	None Known	250 ppm	Yes
Heptane	142-82-5	205-563-8	None Known	500 ppm	No
Acetone	67-64-1	200-662-2	None Known	750 ppm	No
Toluene	108-88-3	203-625-9	None Known	None Known	Yes

In addition, using manufacturers' data, based on EPA Method 311, the following EPA Hazardous Air Pollutants may be present in trace amounts (less than 0.1%):
 Benzene, Mixed Xylenes, Ethylbenzene

RESPIRATORY EXPOSURE CONTROLS

A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z86.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

VENTILATION

LOCAL EXHAUST: Necessary MECHANICAL (GENERAL): Acceptable
 SPECIAL: None OTHER: None
 Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

PERSONAL PROTECTIONS:

Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier. Wear goggles, face shield, gloves, apron & footwear impervious to material. Wash clothing before reuse.

WORK & HYGIENIC PRACTICES:

Provide readily accessible eye wash stations & safety showers.
 Wash at end of each workshift & before eating, smoking or using the toilet.
 Promptly remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

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SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE:	Liquid, Water-White
ODOR:	Ketone
ODOR THRESHOLD:	Not Available
pH (Neutrality):	Not Applicable
MELTING POINT/FREEZING POINT:	Not Available
BOILING RANGE (IBP,50%,Dry Point):	56 70 172 C / 133 158 342 F
FLASH POINT (TEST METHOD):	-16 C / 2 F (TCC)
EVAPORATION RATE (n-BUTYL ACETATE=1):	1.8
FLAMMABILITY CLASSIFICATION:	Class I B
LOWER FLAMMABLE LIMIT IN AIR (% by vol):	3.6
UPPER FLAMMABLE LIMIT IN AIR (% by vol):	Not Available
VAPOR PRESSURE (mm of Hg)@20 C	103.1
VAPOR DENSITY (air=1):	1.8
GRAVITY @ 68/68 F / 20/20 C:	
SPECIFIC GRAVITY (Water=1):	0.778
POUNDS/GALLON:	6.479
WATER SOLUBILITY:	Appreciable
PARTITION COEFFICIENT (n-Octane/Water):	Not Available
AUTO IGNITION TEMPERATURE:	293 C / 560 F
DECOMPOSITION TEMPERATURE:	Not Available
VOCs (>0.044 Lbs/Sq In) :	97.7 Vol% / 759.7 g/L / 6.3 Lbs/Gal
TOTAL VOC'S (TVOC)*:	100.0 Vol% / 777.8 g/L / 6.4 Lbs/Gal
NONEXEMPT VOC'S (CVOC)*:	77.0 Vol% / 595.6 g/L / 4.9 Lbs/Gal
HAZARDOUS AIR POLLUTANTS (HAPS):	47.6 Wt% / 370.5 g/L / 3.0 Lbs/Gal
NONEXEMPT VOC PARTIAL PRESSURE (mm of Hg @ 20 C)	63.2

* Using California Air Resources Board (CARB) Rule 310.

SECTION 10. STABILITY & REACTIVITY

STABILITY

Stable under normal conditions.

CONDITIONS TO AVOID

Isolate from oxidizers, heat, sparks, electric equipment & open flame.

MATERIALS TO AVOID

Reacts violently with strong oxidants, causing fire & explosion hazard.
 Attacks many plastics, rubber, coatings.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon Monoxide, Carbon Dioxide from burning.

HAZARDOUS POLYMERIZATION

Will not occur.

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SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE HAZARDS

EYE & SKIN CONTACT:

Primary irritation to skin, defatting, dermatitis.
Absorption thru skin increases exposure.
Primary irritation to eyes, redness, tearing, blurred vision.
Liquid can cause eye irritation. Wash thoroughly after handling.

INHALATION:

Anesthetic. Irritates respiratory tract. Acute overexposure can cause serious nervous system depression. Vapor harmful.
Breathing vapor can cause irritation.
Acute overexposure can cause harm to kidneys, blood, nerves, liver, lungs.
Repeated exposure over TLV can cause blindness.
Use of alcoholic beverages enhances the harmful effect.

SWALLOWING:

Can be fatal or cause blindness if swallowed. Cannot be made non-poisonous.
POISON ! Can cause irreversible nervous system damage & death.
Harmful or fatal if swallowed.
Swallowing can cause abdominal irritation, nausea, vomiting & diarrhea.
The symptoms of chemical pneumonitis may not show up for a few days.

SUBCHRONIC HAZARDS/CONDITIONS AGGRAVATED

CONDITIONS AGGRAVATED

Chronic overexposure can cause harm to kidneys, blood, nerves, liver, lungs.
Persons with severe skin, liver or kidney problems should avoid use.

CHRONIC HAZARDS

CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS:

Pregnant women should avoid use. May cause birth defects.
Liver tumors have been reported in laboratory mice.
Leukemia been reported in humans from Benzene.
This product contains less than 70 ppm of Benzene.
Not considered hazardous in such low concentrations.
Absorption thru skin may be harmful. Studies with laboratory animals indicate this product can cause damage to fetus.
Depending on degree of exposure, periodic medical examination is indicated.

IRRITANCY OF PRODUCT: This product is irritating to contaminated tissue.

SENSITIZATION TO THE PRODUCT: No component of this product is known to be a sensitizer.

MUTAGENICITY: This product is not reported to produce mutagenic effects in humans.

EMBRYOTOXICITY: This product is not reported to produce embryotoxic effects in humans.

TERATOGENICITY: This product is not reported to produce teratogenic effects in humans.

REPRODUCTIVE TOXICITY: This product is not reported to cause reproductive effects in humans.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical which causes damage to a developing embryo (such as: within the eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

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SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

MAMMALIAN TOXICITY INFORMATION

MATERIAL	CAS#	EINECS#	LOWEST KNOWN LETHAL DOSE DATA
Ethylene Glycol Butyl Ether	111-76-2	203-905-0	LOWEST KNOWN LD50 (ORAL) 320.0 mg/kg(Rabbits)
Ethylene Glycol Butyl Ether	111-76-2	203-905-0	LOWEST KNOWN LC50 (VAPORS) 700 ppm (Mice)
Ethylene Glycol Butyl Ether	111-76-2	203-905-0	LOWEST KNOWN LD50 (SKIN) 440.0 mg/kg (Rabbits)

SECTION 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

EFFECT OF MATERIAL ON PLANTS AND ANIMALS:

This product may be harmful or fatal to plant and animal life if released into the environment. Refer to Section 11 (Toxicological Information) for further data on the effects of this product's components on test animals.

EFFECT OF MATERIAL ON AQUATIC LIFE:

The most sensitive known aquatic group to any component of this product is: Tidewater Silversides 250 ppm or mg/L (24 hour exposure).
 Keep out of sewers and natural water supplies.
 The substance is toxic to aquatic organisms.
 Bioaccumulation of this chemical may occur in aquatic animals.

MOBILITY IN SOIL

This material is a mobile liquid.

DEGRADABILITY

This product is partially biodegradable.

ACCUMULATION

This product does not accumulate or biomagnify in the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Processing, use or contamination may change the waste management options.
 Recycle / dispose of observing national, regional, state, provincial and local health, safety & pollution laws. If in doubt, contact appropriate agencies.

SECTION 14. TRANSPORT INFORMATION

IF > 6877 LB / 3125 KG OF THIS PRODUCT IS IN 1 CONTAINER, IT EXCEEDS THE RQ OF TOLUENE. "RQ" MUST BE PUT BEFORE THE DOT SHIPPING NAME.

DOT/TDG SHIP NAME: UN1263, Paint Related Material, 3, PG-II
 DRUM LABEL: (FLAMMABLE LIQUID)
 IATA / ICAO: UN1992, Flammable Liquids, Toxic, n.o.s.
 (Contains: Methanol, Toluene), 3, (6.1), PG-II
 IMO / IMDG: UN1992, Flammable Liquids, Toxic, n.o.s.
 (Contains: Methanol, Toluene), 3, (6.1), PG-II
 EMERGENCY RESPONSE GUIDEBOOK NUMBER: 131

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SECTION 15. REGULATORY INFORMATION



EPA REGULATION:
 SARA SECTION 311/312 HAZARDS: Acute Health,
 Chronic Health, Fire

All components of this product are on the TSCA list.

SARA Title III Section 313 Supplier Notification

This product contains the indicated <*> toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 & of 40 CFR 372. This information must be included in all MSDSs that are copied and distributed for this material.

SARA TITLE III INGREDIENTS	CAS#	EINECS#	WT%	(REG.SECTION)	RQ(LBS)
*Methanol	67-56-1	200-659-6	25-35	(311,312,313,RCRA)	5000
Acetone	67-64-1	200-662-2	15-25	(311,312)	5000
*Toluene	108-88-3	203-625-9	10-15	(311,312,313,RCRA)	1000
*2-Butoxyethanol	111-76-2	203-905-0	0- 5	(313)	None

Any release equal to or exceeding the RQ must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

STATE REGULATIONS:

THIS PRODUCT MEETS REQUIREMENTS OF SOUTHERN

CALIFORNIA AQMD RULE 443.1 & SIMILAR REGULATIONS

CALIFORNIA SAFE DRINKING WATER & TOXIC ENFORCEMENT ACT (PROPOSITION 65):

This product contains the following chemicals known to the State of California

s:

This product contains the following chemicals known to the State of California to cause reproductive toxicity: Methanol, Toluene

INTERNATIONAL REGULATIONS

The components of this product are listed on the chemical inventories of the following countries:

Australia (AICS), Canada (DSL or NDSL), China (IECSC), Europe (EINECS, ELINCS)G
 Japan (METI/CSCL, MHLW/ISHL), South Korea (KECI), New Zealand (NZIoC),
 Philippines (PICCS), Switzerland (SWISS), Taiwan (NECSI), USA (TSCA).

CANADA: WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

B2: Flammable Liquid.

D2B: Irritating to skin / eyes.

SECTION 16. OTHER INFORMATION

HAZARD RATINGS:

HEALTH (NFPA): 1, HEALTH (HMIS): 3, FLAMMABILITY: 3, PHYSICAL HAZARD: 0
 (Personal Protection Rating to be supplied by user based on use conditions.)
 This information is intended solely for the use of individuals
 trained in the NFPA & HMIS hazard rating systems.

EMPLOYEE TRAINING

See Section 2 for Risk & Safety Statements. Employees should be made aware of all hazards of this material (as stated in this SDS) before handling it.

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NOTICE

The supplier disclaims all expressed or implied warranties of merchantability or fitness for a specific use, with respect to the product or the information provided herein, except for conformation to contracted specifications. All information appearing herein is based upon data obtained from manufacturers and/or recognized technical sources. While the information is believed to be accurate, we make no representations as to its accuracy or sufficiency.

Conditions of use are beyond our control, and therefore users are responsible for verifying the data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their handling, and disposal of the product. Users also assume all risks in regards to the publication or use of, or reliance upon information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.

Unless updated, the Safety Data Sheet is valid until 11/19/2015.

COMPANY IDENTITY: Packaging Service Co., Inc.
 PRODUCT IDENTITY: CROWN LOW ODOR MINERAL SPIRITS NEXT
 SDS NUMBER: LOMSNXT

SDS DATE: 05/29/2013
 ORIGINAL: 05/29/2013

SAFETY DATA SHEET

This Safety Data Sheet conforms to ANSI Z400.5, and to the format requirements and the International Chemical Safety Cards of the Global Harmonizing System.

THIS SDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD)

IMPORTANT: Read this SDS before handling & disposing of this product.

Pass this information on to employees, customers, & users of this product.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

PRODUCT IDENTITY: CROWN LOW ODOR MINERAL SPIRITS NEXT
 COMPANY IDENTITY: Packaging Service Co., Inc.
 COMPANY ADDRESS: 1904 Mykawa Road
 COMPANY CITY: Pearland, TX 77581
 COMPANY PHONE: 1-281-485-1458
 EMERGENCY PHONES: CHEMTREC: 1-800-424-9300 (USA)
 CANUTEC: 1-613-996-6666 (CANADA)



SECTION 2. HAZARDS IDENTIFICATION

WARNING!

EXPOSURE PREVENTION: AVOID ALL CONTACT!

HAZARD STATEMENTS:

H100s = General, H200s = Physical, H300s = Health, H400s = Environmental

H290 May be corrosive to metals.
 H304 May be fatal if swallowed and enters airways.
 H314 Causes severe skin burns and eye damage.
 H335 May cause respiratory irritation.

PRECAUTIONARY STATEMENTS:

P100s = General, P200s = Prevention, P300s = Response, P400s = Storage, P500s = Disposal

P243 Take precautionary measures against static discharge.
 P260 Do not breathe dust/fume/gas/mist/vapors/spray.
 P262 Do not get in eyes, on skin, or on clothing.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present & easy to do - Continue rinsing.
 P309+311 If exposed or you feel unwell: Call a POISON CENTER or doctor/physician.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL	CAS#	EINECS#	WT %
Water	7732-18-5	231-791-2	65-75
Medium Aliphatic Naphtha	*64742-88-7	-	25-35
Nonylphenol Ethoxylate	9016-45-9	-	0- 5
C9-11 Alcohol 5-Mole Ethoxylate	68439-46-3	-	0- 5
Sodium Hydroxide	1310-73-2	215-185-5	0- 5

TRACE COMPONENTS: Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, reproductive toxins, respiratory tract mutagens, and sensitizers). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents, and Canadian Hazardous Materials Identification System Standard (CPR 4).

SEE SECTIONS 8, 11 & 12 FOR TOXICOLOGICAL INFORMATION.

COMPANY IDENTITY: Packaging Service Co., Inc.
PRODUCT IDENTITY: CROWN LOW ODOR MINERAL SPIRITS NEXT
SDS NUMBER: LOMSNXT

SDS DATE: 05/29/2013
ORIGINAL: 05/29/2013

SECTION 4. FIRST AID MEASURES

GENERAL ADVICE:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists, refer to Section 8 for specific personal protective equipment.

EYE CONTACT:

If this product enters the eyes, open eyes while under gently running water. Use sufficient force to open eyelids. "Roll" eyes to expose more surface. Minimum flushing is for 15 minutes. Seek immediate medical attention.

SKIN CONTACT:

If the product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. If skin becomes irritated and irritation persists, medical attention may be necessary. Wash contaminated clothing before reuse, discard contaminated shoes.

INHALATION:

After high vapor exposure, remove to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR). Seek immediate medical attention. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

SWALLOWING:

If swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, give two glasses of water to drink. DO NOT INDUCE VOMITING. Never induce vomiting or give liquids to someone who is unconscious, having convulsions, or unable to swallow. Seek immediate medical attention.

NOTES TO PHYSICIAN:

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (such as: Gastric lavage after endotracheal intubation).

SECTION 5. FIRE FIGHTING MEASURES

FIRE & EXPLOSION PREVENTIVE MEASURES

NO open flames. Above flash point, use a closed system, ventilation, explosion-proof electrical equipment, lighting.

EXTINGUISHING MEDIA

Use dry powder, AFFF, carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES

Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used.
Do not enter confined fire-space without full bunker gear.
(Helmet with face shield, bunker coats, gloves & rubber boots).
Use NIOSH approved positive-pressure self-contained breathing apparatus.

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SECTION 5. FIRE FIGHTING MEASURES (CONTINUED)

UNUSUAL EXPLOSION AND FIRE PROCEDURES

COMBUSTIBLE!

Isolate from oxidizers, heat, & open flame.
Closed containers may explode if exposed to extreme heat.
Applying to hot surfaces requires special precautions.
Empty container very hazardous! Continue all label precautions!

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE AND ENVIRONMENTAL PRECAUTIONS:

Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel.

PERSONAL PROTECTIVE EQUIPMENT

The proper personal protective equipment for incidental releases (such as: 1 Liter of the product released in a well-ventilated area), use impermeable gloves (triple-gloves (rubber gloves and nitrile gloves, over latex gloves), goggles, face shield, and appropriate body protection. In the event of a large release, use impermeable gloves, specific for the material handled, chemically resistant suit and boots, and hard hat. Self-Contained Breathing Apparatus or respirator may be required where engineering controls are not adequate or conditions for potential exposure exist. When respirators are required, select NIOSH/MSHA approved based on actual or potential airborne concentrations in accordance with latest OSHA and/or ANSI recommendations.

ENVIRONMENTAL PRECAUTIONS:

Stop spill at source. Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of the material. Close or cap valves and/or block or plug hole in leaking container and transfer to another container. Keep from entering storm sewers and ditches which lead to waterways, and if necessary, call the local fire or police department for immediate emergency assistance.

CONTAINMENT AND CLEAN-UP MEASURES:

Absorb spilled liquid with polypads or other suitable absorbent materials. If necessary, neutralize using suitable buffering material, (acid with soda ash or base with phosphoric acid), and test area with litmus paper to confirm neutralization. Clean up with non-combustible absorbent (such as: sand, soil, and so on). Shovel up and place all spill residue in suitable containers. dispose of at an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal (see Section 13 - Disposal Considerations).

SECTION 7. HANDLING AND STORAGE

HANDLING

Isolate from oxidizers, heat, & open flame. Use only with adequate ventilation. Avoid breathing of vapor or spray mist. Avoid contact with skin & eyes. Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier. Wear goggles, face shield, gloves, apron & footwear impervious to material. Wash clothing before reuse. Avoid free fall of liquid. Ground containers when transferring. Do not flame cut, braze, or weld. Empty container very hazardous! Continue all label precautions! NEVER pour water into this substance. When dissolving or diluting, always add it slowly to the water.

STORAGE

Keep separated from strong oxidants, strong acids, metals, food & feedstuffs. Keep dry. Do not store above 49 C/120 F.
Keep container tightly closed & upright when not in use to prevent leakage.

COMPANY IDENTITY: Packaging Service Co., Inc.
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SECTION 7. HANDLING AND STORAGE (CONTINUED)

NONBULK: CONTAINERS:

Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Post warning and "NO SMOKING" signs in storage and use areas, as appropriate. Empty containers should be handled with care. Never store food, feed, or drinking water in containers which held this product.

BULK CONTAINERS:

All tanks and pipelines which contain this material must be labeled. Perform routine maintenance on tanks or pipelines which contain this product. Report all leaks immediately to the proper personnel.

TANK CAR SHIPMENTS:

Tank cars carrying this product should be loaded and unloaded in strict accordance with tank-car manufacturer's recommendation and all established on-site safety procedures. Appropriate personal protective equipment must be used (see Section 8, Engineering Controls and Personal Protective Equipment.). All loading and unloading equipment must be inspected, prior to each use. Loading and unloading operations must be attended, at all times. Tank cars must be level, brakes must be set or wheels must be locked or blocked prior to loading or unloading. Tank car (for loading) or storage tanks (for unloading) must be verified to be correct for receiving this product and be properly prepared, prior to starting the transfer operations. Hoses must be verified to be in the correct positions, before starting transfer operations. A sample (if required) must be taken and verified (if required) prior to starting transfer operations. All lines must be blown-down and purged before disconnecting them from the tank car or vessel.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:

Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Collect all rinsates and dispose of according to applicable Federal, State, Provincial, or local procedures.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

MATERIAL	CAS#	EINECS#	TWA (OSHA)	TLV (ACGIH)
Water	7732-18-5	231-791-2	None Known	None Known
Medium Aliphatic Naphtha	*64742-88-7	-	5 mg/m3	5 mg/m3
Nonylphenol Ethoxylate	9016-45-9	-	None Known	None Known
C9-11 Alcohol 5-Mole Ethoxylate	68439-46-3	-	None Known	None Known
Sodium Hydroxide	1310-73-2	215-185-5	None Known	None Known

MATERIAL	CAS#	EINECS#	CEILING	STEL (OSHA/ACGIH)	HAP
Sodium Hydroxide	1310-73-2	215-185-5	2 ppm	None Known	No

This product contains no EPA Hazardous Air Pollutants (HAP) in amounts > 0.1%.
 EPA Hazardous Air Pollutants may be present in trace amounts (less than 0.1%):
 Cumene, Polycyclic Aromatics

COMPANY IDENTITY: Packaging Service Co., Inc.
PRODUCT IDENTITY: CROWN LOW ODOR MINERAL SPIRITS NEXT
SDS NUMBER: LOMSNXT

SDS DATE: 05/29/2013
ORIGINAL: 05/29/2013

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

RESPIRATORY EXPOSURE CONTROLS

Seek professional advice prior to respirator selection and use. Maintain airborne contaminant concentrations below exposure limits given above. If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134, European Standard EN 149, or applicable State regulations. If adequate ventilation is not available or there is potential for airborne exposure above the exposure limits, a respirator may be worn up to the respirator exposure limitations, check with respirator equipment manufacturer's recommendations/limitations. For a higher level of protection, use positive pressure supplied air respiration protection or Self-Contained Breathing Apparatus or if oxygen levels are below 19.5% or are unknown.

EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS

Positive pressure, full-face piece Self-Contained Breathing Apparatus; or positive pressure, full-face piece Self-Contained Breathing Apparatus with an auxilliary positive pressure Self-Contained Breathing Apparatus.

VENTILATION

LOCAL EXHAUST:	Necessary	MECHANICAL (GENERAL):	Necessary
SPECIAL:	None	OTHER:	None

Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

EYE PROTECTION:

Splash goggles or safety glasses. Face-shields are recommended when the operation can generate splashes, sprays or mists.

HAND PROTECTION:

Wear appropriate impervious gloves for routine industrial use. Use impervious gloves for spill response, as stated in Section 6 of this SDS (Accidental Release Measures).

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

BODY PROTECTION:

Use body protection appropriate for task. Cover-all, rubber aprons, or chemical protective clothing made from impervious materials are generally acceptable, depending on the task.

WORK & HYGIENIC PRACTICES:

Provide readily accessible eye wash stations & safety showers. Wash at end of each shift & before eating, smoking or using the toilet. Remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

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SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE:	Liquid, Water-White
ODOR:	Mild
ODOR THRESHOLD:	Not Available
pH (Neutrality):	Not Applicable
MELTING POINT/FREEZING POINT:	Not Available
BOILING RANGE (IBP,50%,Dry Point):	103 114 203°C/219 238 398°F(*=End Point)
FLASH POINT (TEST METHOD):	60 C / 141 F (TCC)
EVAPORATION RATE (n-BUTYL ACETATE=1):	Not Applicable
FLAMMABILITY CLASSIFICATION:	Class IIIA
LOWER FLAMMABLE LIMIT IN AIR (% by vol):	0.95 (Lowest Component)
UPPER FLAMMABLE LIMIT IN AIR (% by vol):	Not Available
VAPOR PRESSURE (mm of Hg)@20 C	16.8
VAPOR DENSITY (air=1):	0.871
GRAVITY @ 68/68 F / 20/20 C:	
SPECIFIC GRAVITY (Water=1):	0.927
POUNDS/GALLON:	7.722
WATER SOLUBILITY:	Appreciable
PARTITION COEFFICIENT (n-Octane/Water):	Not Available
AUTO IGNITION TEMPERATURE:	260 C / 500 F
DECOMPOSITION TEMPERATURE:	Not Available
REFRACTIVE INDEX:	1.367
VOCs (>0.044 Lbs/Sq In) :	27.3 Vol% / 253.4 g/L / 2.1 Lbs/Gal
TOTAL VOC'S (TVOC)*:	32.2 Vol% / 253.4 g/L / 2.1 Lbs/Gal
NONEXEMPT VOC'S (CVOC)*:	32.2 Vol% / 253.4 g/L / 2.1 Lbs/Gal
HAZARDOUS AIR POLLUTANTS (HAPS):	0.0 Wt% / 0.0 g/L / 0.000 Lbs/Gal
NONEXEMPT VOC PARTIAL PRESSURE (mm of Hg @ 20 C)	0.071

* Using California Air Resources Board (CARB) Rule 310.

SECTION 10. STABILITY & REACTIVITY

STABILITY

Stable under normal conditions.

CONDITIONS TO AVOID

Isolate from extreme heat, & open flame.

MATERIALS TO AVOID

Isolate from strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon Monoxide, Carbon Dioxide from burning.

HAZARDOUS POLYMERIZATION

Will not occur.

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SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE HAZARDS

EYE & SKIN CONTACT:

Primary irritation to skin, defatting, dermatitis.
Primary irritation to eyes, redness, tearing, blurred vision.
Liquid can cause eye irritation. Wash thoroughly after handling.

INHALATION:

Anesthetic. Irritates respiratory tract. Acute overexposure can cause serious nervous system depression. Vapor harmful. The applicable occupational exposure limit value should not be exceeded during any part of the working exposure.

SWALLOWING:

Harmful or fatal if swallowed.
Swallowing can cause abdominal irritation, nausea, vomiting & diarrhea. The symptoms of chemical pneumonitis may not show up for a few days.

SUBCHRONIC HAZARDS/CONDITIONS AGGRAVATED

CONDITIONS AGGRAVATED

Persons with severe skin, liver or kidney problems should avoid use.

CHRONIC HAZARDS

CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS:

Leukemia been reported in humans from Benzene.
This product contains less than 1 ppm of Benzene.
Not considered hazardous in such low concentrations.
Absorption thru skin may be harmful.

IRRITANCY OF PRODUCT: This product is irritating to contaminated tissue.

SENSITIZATION TO THE PRODUCT: No component of this product is known to be a sensitizer.

MUTAGENICITY: This product is not reported to produce mutagenic effects in humans.

EMBRYOTOXICITY: This product is not reported to produce embryotoxic effects in humans.

TERATOGENICITY: This product is not reported to produce teratogenic effects in humans.

REPRODUCTIVE TOXICITY: This product is not reported to cause reproductive effects in humans.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical which causes damage to a developing embryo (such as: within the eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

MAMMALIAN TOXICITY INFORMATION

No mammalian information is available on this product.

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SECTION 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

EFFECT OF MATERIAL ON PLANTS AND ANIMALS:

This product may be harmful or fatal to plant and animal life if released into the environment. Refer to Section 11 (Toxicological Information) for further data on the effects of this product's components on test animals.

EFFECT OF MATERIAL ON AQUATIC LIFE:

No aquatic environmental information is available on this product.
 The substance may be hazardous in the environment.
 Special attention should be given to water organisms.
 Environmental effects of the substance have not been investigated adequately.

MOBILITY IN SOIL

This material is a mobile liquid.

DEGRADABILITY

This product is partially biodegradable.

ACCUMULATION

Bioaccumulation of this product has not been determined.

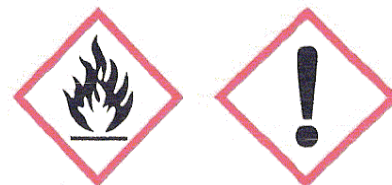
SECTION 13. DISPOSAL CONSIDERATIONS

Processing, use or contamination may change the waste disposal requirements. Do not dispose of on land, in surface waters, or in storm drains. Waste should be recycled or disposed of in accordance with regulations. Large amounts should be collected for reuse or consigned to licensed hazardous waste haulers for disposal.

ALL DISPOSAL MUST BE IN ACCORDANCE WITH ALL FEDERAL, STATE, PROVINCIAL, AND LOCAL REGULATIONS. IF IN DOUBT, CONTACT PROPER AGENCIES.

SECTION 14. TRANSPORT INFORMATION

DOT/TDG SHIP NAME: NONBULK: None
 BULK: NA1993, Combustible Liquid, n.o.s.
 (contains: Medium Aliphatic Naphtha), PG-III
 Combustible liquid. Not DOT regulated on trucks in containers of < 119 gallons.
 DRUM LABEL: None (Combustible Liquid)
 IATA / ICAO: None
 IMO / IMDG: None
 EMERGENCY RESPONSE GUIDEBOOK NUMBER: 128



SECTION 15. REGULATORY INFORMATION

EPA REGULATION:

SARA SECTION 311/312 HAZARDS: Acute Health, Fire

All components of this product are on the TSCA list.

This material contains no known products restricted under SARA Title III, Section 313 in amounts greater or equal to 1%.

SARA TITLE III INGREDIENTS	CAS#	EINECS#	WT%	(REG.SECTION)	RQ(LBS)
Sodium Hydroxide	1310-73-2	215-185-5	0- 1	(311,312)	1000

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SECTION 15. REGULATORY INFORMATION (CONTINUED)

Any release equal to or exceeding the RQ must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

STATE REGULATIONS:

THIS PRODUCT MEETS REQUIREMENTS OF SOUTHERN
CALIFORNIA AQMD RULE 443.1 & SIMILAR REGULATIONS

CALIFORNIA SAFE DRINKING WATER & TOXIC ENFORCEMENT ACT (PROPOSITION 65):
This product contains no chemicals known to the State of California to cause cancer or reproductive toxicity.

INTERNATIONAL REGULATIONS

The components of this product are listed on the chemical inventories of the following countries:
Australia (AICS), Canada (DSL or NDSL), China (IECSC), Europe (EINECS, ELINCS)G
Japan (METI/CSCL, MHLW/ISHL), South Korea (KECI), New Zealand (NZIoC),
Philippines (PICCS), Switzerland (SWISS), Taiwan (NECSI), USA (TSCA).

CANADA: WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

B3: Combustible Liquid.
D2B: Irritating to skin / eyes.

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

SECTION 16. OTHER INFORMATION

HAZARD RATINGS:

HEALTH (NFPA): 1, HEALTH (HMIS): 1, FLAMMABILITY: 2, PHYSICAL HAZARD: 0
(Personal Protection Rating to be supplied by user based on use conditions.)
This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating systems.

EMPLOYEE TRAINING

See Section 2 for Risk & Safety Statements. Employees should be made aware of all hazards of this material (as stated in this SDS) before handling it.

NOTICE

The supplier disclaims all expressed or implied warranties of merchantability or fitness for a specific use, with respect to the product or the information provided herein, except for conformation to contracted specifications. All information appearing herein is based upon data obtained from manufacturers and/or recognized technical sources. While the information is believed to be accurate, we make no representations as to its accuracy or sufficiency. Conditions of use are beyond our control, and therefore users are responsible for verifying the data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their handling, and disposal of the product. Users also assume all risks in regards to the publication or use of, or reliance upon information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.

Unless updated, the Safety Data Sheet is valid until 05/29/2016.

MATERIAL SAFETY DATA SHEET
Emergency 24 Hr. Phone - CHEMTREC - 1-800-424-9300

PRODUCT, CROWN PAINT THINNER

NFPA
Health 2
Fire 2
Reactivity 0
Special --
HMIS, PPI G

SECTION I, SUPPLIER INFORMATION

PACKAGING SERVICE CO. INC.
4704 SHANK ROAD
P.O. Box 875
PEARLAND, TEXAS 77581
Telephone (713) 495-1457
Revised 1/90 by Scientific Information Services

SECTION II, HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENTS-(CAS Number)

OSHA PEL ACGIH TLV OTHER

MINERAL SPIRITS (64742-88-7) -----TWA 500ppm--100ppm-----STEL 200ppm

SECTION III, PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point, 323 F. - 390 F.

Specific Gravity (H2O=1), 0.78

Vapor Pressure, 10 mm./Hg. at 20 degrees C.

Volatile Organic Compound, 774 grams/Liter

Melting Point, ND

Vapor Density (Air=1), 5.3

Evaporation Rate (BuAc=1), 0.07

Solubility in Water, INSOLUBLE

Appearance and Odor, CLEAR SOLUTION WITH SOLVENT ODOR

SECTION IV, FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method), 111 F. (TCC)

Flammable Limits: Lower, 1% Upper, 7%

Extinguishing Media, WATER FOG OR SPRAY, FOAM, DRY POWDER, CARBON DIOXIDE (CO2).

Special Fire Fighting Procedures, APPROACH FIRE FROM UPWIND SIDE. AVOID BREATHING SMOKE, FUMES, MIST, OR VAPOURS ON THE DOWNWIND SIDE.

Unusual Fire and Explosion Hazards, CONTAINERS MAY RUPTURE FROM INTERNAL PRESSURE IF CONFINED TO FIRE AREA. COOL WITH WATER. GET NON ESSENTIAL PEOPLE OUT OF THE AREA.

MATERIAL SAFETY DATA SHEET
Emergency 24 Hr. Phone - CHEMTREC - 1-800-424-9300

CROWN PAINT THINNER

SECTION V, REACTIVITY INFORMATION

STABILITY

Product 13; STABLE

INCOMPATIBILITY

Materials to avoid, OXIDIZERS OR OXIDIZING MATERIALS.

Hazardous Decomposition or Byproducts, FROM FIRE; SMOKE, CARBON DIOXIDE, CARBON MONOXIDE.

Hazardous Polymerization, WILL NOT OCCUR.

SECTION VI, HEALTH HAZARD DATA

ROUTES OF ENTRY

Inhalation? POSSIBLE (IRRITANT/NARCOTIC)

Skin/Eyes? POSSIBLE (IRRITANT)

Ingestion? UNLIKELY (IRRITANT/NARCOTIC)

HEALTH HAZARDS

Acute, INHALATION OF VAPORS MAY BE NARCOTIC OR ANESTHETIC. INGESTION OF LIQUID WILL CAUSE GASTROINTESTINAL DISTRESS, IRRITATION, AND POSSIBLY NAUSEA. LIQUID OR VAPORS MAY BE IRRITATING TO SKIN AND EYES.

Chronic, KIDNEY AND LIVER DAMAGE POSSIBLE.

CARCINOGENICITY

Listed in; NTP? NO

IARC Monographs? NO

OSHA Regulated? NO

Signs and Symptoms of Exposure, SIGNS OF INHALATION OVEREXPOSURE, IN ORDER: IRRITATION OF RESPIRATORY TRACT, NERVOUS SYSTEM DEPRESSION, HEADACHES, DIZZINESS, STAGGERING GAIT, CONFUSION, UNCONSCIOUSNESS, COMA.

Medical Conditions Generally Aggravated by Exposure, BREATHING DISORDERS, DERMATITIS.

Emergency and First Aid Procedures,

INHALATION: REMOVE VICTIM TO FRESH AIR AND, IF NEEDED, IMMEDIATELY BEGIN ARTIFICIAL RESPIRATION. GIVE OXYGEN IF BREATHING IS LABORED. GET EMERGENCY MEDICAL HELP. CONTACT PHYSICIAN IMMEDIATELY.

INGESTION: DO NOT INDUCE VOMITING, GET IMMEDIATE MEDICAL ATTENTION.

FLUSH EYES AND SKIN WITH WATER. GET MEDICAL ATTENTION IF SYMPTOMS DEVELOP AND PERSIST.

MATERIAL SAFETY DATA SHEET
Emergency 24 Hr. Phone - CHEMTREC - 1-800-424-9300

CROWN PAINT THINNER

SECTION X, OTHER DATA

EPA Hazards, 1-Acute YES

2-Chronic YES

3-Flammability YES

4-Sudden Release of Pressure NO

5-Reactive NO

CERCLA RQ NONE

Hazardous Waste Number D001 IGNITABLE

SARA Title III NO

Threshold Planning Quantity, NONE

Reportable Quantity, NONE

Section 313, Toxic Materials:

Chemical Name

CAS Number

Weight %

Clean Air Act NOT LISTED

Clean Water Act NOT LISTED

TOXIC SUBSTANCES CONTROL ACT (TSCA), 40 CFR 710
Sources of the raw materials used in this mixture assure that all
chemical ingredients present are in compliance with Sect. 8(b)
Chemical Substance Inventory, or are otherwise in compliance with
TSCA.

NA-Not applicable

CS-Cancer Suspect Agent

CALC-Calculated

STEL-Short Time Exposure Limit

PEL-Permissible Exposure Limit

HMIS, PPI-Hazardous Material Identification System, Personal Protection
Index

OX-Oxidizer

ND-Data not available

COR-Corrosive

EST-Estimated

TLV-Threshold Limit Value

TWA-Time Weighted Average, 8 hours

The data presented is true and correct to the best of our knowledge and
belief, however, neither seller nor preparer makes any warranties,
express or implied, concerning the information presented. The user is
cautioned to perform his own hazard evaluation and to rely upon his own
determinations.

SCIENTIFIC INFORMATION SERVICES, INC.
Telephone (817) 560-4631

Form essentially the same as OSHA Form 174 Dated September 1985

MATERIAL SAFETY DATA SHEET
Emergency 24 Hr. Phone - CHEMTREC - 1-800-424-9300

CROWN PAINT THINNER

SECTION VII, PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled, SMALL SPILLS, PICK UP WITH ABSORBENT MEDIA. STORE AS HAZARDOUS WASTE.

LARGE SPILLS, CONTAIN WITH DIKES, PICK UP WITH VACUUM TRUCK. HANDLE AS HAZARDOUS WASTE. NOTIFY PROPER LOCAL, STATE, AND FEDERAL AGENCIES.

FOR VAPOR RELEASE, GET PEOPLE OUT OF THE AREA, SHUT OFF IGNITION SOURCES, VENTILATE THE AREA. NOTIFY PROPER AUTHORITIES IF REQUIRED BY SARA TITLE III.

Waste disposal method, EPA APPROVED HAZARDOUS WASTE DISPOSAL SITE. FOLLOW APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.

Precautions to be taken in handling and storage, STORE IN A COOL PLACE AWAY FROM IGNITION SOURCES.

Other precautions, STORE AWAY FROM OXIDIZERS OR MATERIALS BEARING A YELLOW "DOT" LABEL.

SECTION VIII, CONTROL MEASURES

Respiratory Protection, NIOSH APPROVED ORGANIC VAPOR MASK.

Ventilation; Local Exhaust, DESIRED Special, --
Mechanical, DESIRED Other, --

Protective Gloves, CHEMICAL RESISTANT GLOVES SUITABLE FOR HYDROCARBON SOLVENTS.

Eye Protection, CHEMICAL GOGGLES OR FULL FACE SHIELD.

Other Protective Equipment, NOT NORMALLY NEEDED.

Work Hygienic Practices, AVOID CONTACT WITH SKIN, EYES, AND CLOTHING. AFTER HANDLING THIS PRODUCT, WASH HANDS BEFORE EATING, DRINKING, OR SMOKING. IF CONTACT OCCURS, REMOVE CONTAMINATED CLOTHING. IF NEEDED, TAKE FIRST AID ACTION SHOWN IN SECTION VI. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

SECTION IX, TRANSPORTATION INFORMATION

DOT Proper Shipping Name, Hazard Class., UN/NA Number, RQ (If Needed)

If in a container holding less than 110 gallons: Enter on shipping paper:

CHEMICALS, N.O.S., (or enter) CROWN PAINT THINNER
(CONTAINS MINERAL SPIRITS)

If in a container holding more than 110 gallons: Enter on shipping paper:

COMBUSTIBLE LIQUID, N.O.S., COMBUSTIBLE MATERIAL, NA1993
(CONTAINS MINERAL SPIRITS)

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 277.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Crystal Violet Solution

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 2). Highly flammable liquid and vapor (H225). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing mist, vapors or spray (P261).

Hazard class: Specific target organ toxicity, single exposure (Category 1). Causes damage to organs (H370).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Crystal violet	548-62-9	$C_{25}H_{30}ClN_3$	408.00	1% or less
Ethyl alcohol, denatured	64-17-5	C_2H_5OH	46.07	99%

SECTION 4 — FIRST AID MEASURES

If exposed or concerned: Call a POISON CENTER or physician (P307+P311).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313). **If on skin (or hair):** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P302+P301+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Class IB flammable liquid due to ethyl alcohol content.

Flash point: 21 °C

When heated, releases flammable fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA Code

H-2

F-3

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain the spill with sand or other inert absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators and stains.

Store in a dedicated flammables cabinet. If a flammables cabinet is not available, store in Flinn Saf-Stor™ can. Keep container tightly closed (P233). Keep cool (P235). Ground or bond container and receiving equipment (P240). Use explosion-proof electrical and ventilating equipment (P241). Use only non-sparking tools (P242). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271). Will stain skin, clothing, and surfaces.

Exposure guidelines: (as ethyl alcohol) PEL 1000 ppm (OSHA), Ceiling 1000 ppm (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Purple-violet liquid. Alcohol odor.

Boiling point: 78 °C (ethyl alcohol)

Biological stain.

Gram stain recipe.

SECTION 10 — STABILITY AND REACTIVITY

Avoid any source of fire or ignition.

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Eye irritation, nausea, dizziness, headache.

ORL-RAT LD₅₀: 7060 mg/kg (as ethyl alcohol)

Chronic effects: Liver damage, reproductive, teratogenic effects, carcinogen.

IHL-RAT LC₅₀: 20,000 ppm/10H (as ethyl alcohol)

SKN-RBT LD₅₀: N.A.

Target organs: Eyes, skin, central nervous system, liver, reproductive system.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Ethyl alcohol. Hazard class: 3, Flammable liquid. UN number: UN1170.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 280.00

Revision Date: September 29, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Copper(II) Carbonate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Copper(II) carbonate	12069-69-1	$\text{Cu}_2(\text{OH})_2\text{CO}_3$	221.11	
Synonyms: Cupric carbonate; Malachite				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P302+P301+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

Hazardous combustion products: copper oxides, carbon oxides and irritating smoke or fumes.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates. Store in a cool, dry place. Store in the dark. Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

ACGIH TLV: 0.1 mg/m³ (fume as Cu); 1 mg/m³ (dust and mist, as Cu)

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Light green powder. Odorless.

Specific gravity: 4.0

Soluble: Acids. Insoluble in water.

Flash point: 169.8 °C

Decomposes at > 200 °C

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong acids.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, irritant, and gastrointestinal disturbances.

ORL-RAT LD₅₀: 1350 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (235-113-6).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: September 29, 2015

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 281.05

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Copper(II) Chloride, Dihydrate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 3). Toxic if swallowed (H301). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314).

Hazard class: Specific target organ toxicity, single exposure; Respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Copper (II) chloride dihydrate	10125-13-0	$\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$	170.483	
Synonyms: Cupric chloride; Copper dichloride				

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310).

If inhaled: Remove victim to fresh air in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If on skin:** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). Wash contaminated clothing before reuse (P363). **If swallowed:** Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Deliquescent. Store in a cool, dry place within a Flinn Chem-Saf™ bag.

Do not breathe dust or fumes (P260). Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Light blue-green powder or crystals. Odorless.

Melting point: 100 °C (decomposes)

Soluble: Water and alcohol

Specific gravity: 2.51

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with moisture and alkali metals.

Shelf life: Poor, deliquescent. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, irritant, and gastrointestinal disturbances.

ORL-RAT LD₅₀: 140 mg/kg.

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Copper Chloride. Hazard class: 8, Corrosive. UN number: UN2802.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-210-2).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 281.00

Revision Date: April 3, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Copper(II) Chloride Anhydrous

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Hazard class: Specific target organ toxicity, single exposure; Respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Copper(II) chloride	7447.39-4	CuCl ₂	134.45	

SECTION 4 — FIRST AID MEASURES

If exposed or concerned: Get medical advice or attention (P308+P313).

If inhaled: Remove victim to fresh air in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). If eye irritation persists: Get medical advice or attention (P337+P313).

If on skin: Rinse cautiously with water for several minutes (P351).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates, and phosphates.

Deliquescent. Store in a cool, dry place within a Flinn Chem-Saf™ bag. Keep container tightly closed (P233).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Olive-tan powder or crystals. Slight vanilla odor.

Melting point: 620 °C

Soluble: Water and alcohol

Specific gravity: 3.4

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with moisture and alkali metals.

Shelf life: Poor, deliquescent. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, irritant, and gastrointestinal disturbances.

ORL-RAT LD₅₀: 584 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Copper Chloride. Hazard class: 8, Corrosive. UN number: UN2802.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-210-2).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: April 3, 2014

Section 1 — Chemical Product and Company Identification

Cupric Nitrate

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Cupric Nitrate

Synonym: copper (II) nitrate

CAS#: 19004-19-4

Section 3 — Hazards Identification

Blue crystals, nitric acid odor.

Moderately toxic by ingestion and inhalation. Corrosive. Body tissue irritant. Avoid all body tissue contact.

Strong oxidizer, keep away from organic material.

FLINN AT-A-GLANCE

Health-2

Flammability-0

Reactivity-3

Exposure-2

Storage-1

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable, non combustible solid.

Strong oxidizer. Avoid contact with combustible and organic materials. Heating to decomposition may emit toxic fumes of NOx.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None

Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #3. Store with amides, nitrates and nitrites.

Store in a cool dry place. Deliquescent, store in Flinn Chem-Saf Bag. Use and dispense in a hood.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Use exhaust ventilation to keep airborne concentrations low.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

Cupric Nitrate

MSDS #: 282.00

Revision Date: February 24, 2003

Section 9 — Physical and Chemical Properties

Blue crystals, nitric acid odor.
Solubility: Soluble in water and alcohol.
Formula: $\text{Cu}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}$
Formula Weight: 241.60

Specific Gravity: 2.0
Melting Point: 115 C

Section 10 — Stability and Reactivity

Avoid contact with organic materials, reducing agents, heat or moisture. Avoid dust.
Shelf life: Poor; substance deliquescent.

Section 11 — Toxicological Information

Acute effects: Corrosive
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: 940 mg/kg
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Nitrates, Inorganic, n.o.s.
Hazard Class: 5.1, Oxidizer
UN Number: UN1477

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (221-838-5), RCRA code D001.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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"Your Safer Source for Science Supplies"

Flinn Chemical Packaging Prevents Accidents

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 284.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Copper(II) Oxide

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Copper(II) oxide	1317-38-0	CuO	79.54	
Synonym: Cupric oxide				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P302+P301+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates. Store in a cool, dry place. Keep container tightly closed.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Black or brownish-black color granules or powder. Odorless.
Soluble: Acids. Difficult to dissolve in water.

Decomposes at 1026 °C
Specific gravity: 5.75-6.09

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with reducing agents, aluminum, alkali metals, and finely powdered metals.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD₅₀: 470 mg/kg
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (215-269-1).

SECTION 16 — OTHER INFORMATION

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
Revision Date: March 21, 2014

The Home Scientist, LLC

Material Safety Data Sheet

4231 Witherow Road
Winston-Salem, NC 27106-2945
(336) 725-4549

MSDS #: CC05
Effective Date: May 15, 2011

SECTION I		NAME		24 HOUR EMERGENCY ASSISTANCE				
Product:	Copper(II) Sulfate, 1.0 M solution	<div>NFPA</div> <div></div>	<div>CHEMTREC</div> <div>(800) 424-9300</div>	HMIS*				
Chemical Synonyms:	Cupric Sulfate, water solution			Health: 1				
Formula:	Mixture. See Section II.			Fire: 0				
Unit Size:	up to 1.000 liter			Reactivity: 0				
CAS #:	Mixture. See Section II.							
		Hazard Rating						
		Minimal 0	Slight 1	Moderate 2	Serious 3	Severe 4		

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	Percentage	Hazardous?	TLV Units
Copper(II) sulfate, CuSO ₄ (CAS #: 7758-98-7)	13.8%	Yes	None Established
Water, H ₂ O (CAS #: 7732-18-5)	86.2%	No	None established

CAUTION!
HARMFUL IF SWALLOWED. IRRITANT. MAY CAUSE SKIN REACTION.

SECTION III PHYSICAL DATA

Melting Point (°F):	approximately 0 °C (32 °F)	Specific Gravity (H ₂ O = 1):	approximately 1.1
Boiling point (°F):	approximately 100 °C (212 °F)	Percent Volatile by Volume (%):	86.2%
Vapor Pressure (mm of Hg):	14 mm (water)	Evaporation Rate (Water = 1):	slightly less than 1.0
Vapor Density (Air = 1):	0.7 (water)		
Solubility in Water:	Complete		
Appearance & Odor:	Clear, blue, odorless liquid.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Non-flammable	Flammable Limits in Air % by Volume	N/A	Lower N/A	Upper N/A
Extinguisher Media	Use any media suitable for extinguishing supporting fire.				

SPECIAL FIREFIGHTING PROCEDURES

Wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing. Copper sulfate does not burn, nor will it support combustion. If water is used to extinguish fire, care should be used to keep such water out of streams or other water bodies.

UNUSUAL FIRE AND EXPLOSION HAZARDS

If dry heated above 600 °C (1,112 °F), sulfur dioxide is evolved.

D.O.T. Non-regulated

SECTION V HEALTH HAZARD DATA

CC05

THRESHHOLD LIMITED VALUE None established for this solution. (ACGIH 2001).

EFFECTS OF OVEREXPOSURE **INGESTION:** Although a strong emetic, can cause copper poisoning and/or death. Symptoms: nausea, vomiting, diarrhea, and gastric pain. **EYES:** Corrosive, causes conjunctivitis. **SKIN:** May cause allergic reaction. **INHALATION:** Causes upper respiratory irritation and congestion of the nasal mucous membranes. Target organs: Liver, kidneys, lungs, spleen.

EMERGENCY AND FIRST AID PROCEDURES **INGESTION:** Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person. **EYES:** Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. **SKIN:** Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION VI REACTIVITY DATA

Stability	Unstable	X	Conditions to Avoid	Excessive temperature and heat causing evaporation.
	Stable			
Incompatibility (Materials to Avoid)		Avoid contact with hydroxylamine, magnesium, and reducing agents. This product can corrode steel and iron. Incompatible with alkalies, phosphates, acetylene, hydrazine, and nitromethane.		
Hazardous Decomposition Products			Sulfur oxides and copper fumes.	
Hazardous Polymerization			Conditions to Avoid	Not applicable.
May Occur	Will Not Occur			
	X			

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled	Sprinkle lime or soda ash on spill to form insoluble copper salt. Sweep up and place in a suitable container for proper disposal. Wash spill area with soap and water. Avoid contaminating public water supply.
Waste Disposal Method	Discharge, treatment, or disposal may be subject to Federal, State, or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only. Dispose of in accordance with federal, state, and local regulations.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	None needed in normal laboratory handling. If misty conditions prevail, work in ventilation hood or wear a NIOSH/MSHA-approved respirator.			
Ventilation	Local Exhaust	None required	Special	No
	Mechanical (General)	None required	Other	Adequate to maintain below exposure limit
Protective Gloves	Rubber	Eye Protection	Chemical safety glasses	
Other Protective Equipment	Goggles, smock, lab coat, apron, eye wash station, proper gloves			

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing	Keep container tightly closed when not in use. Store in a cool, dry place. Wash thoroughly after handling.
Other Precautions	Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food, cosmetic, or household use. Keep out of reach of children. Do not take internally. Avoid contact with eyes or prolonged contact with skin. Remove and wash contaminated clothing.

Revision #: 1	Date: May 15, 2011	Approved: Robert Bruce Thompson	Chemical Safety Coordinator: RBT
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FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

MSDS #: 286.00

Revision Date: November 25, 2002

Section 1 — Chemical Product and Company Identification

Cupric Sulfate Solution

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Cupric Sulfate (7758-99-8) 2.5-25% and Water (7732-18-5) 97.5-75%

Synonym: copper (II) sulfate

CAS#: None Established

Section 3 — Hazards Identification

Blue solution. Odorless.

Mildly toxic by ingestion. Irritant to skin, eyes and mucous membranes. Avoid contact with body tissues.

FLINN AT-A-GLANCE

Health-1

Flammability-0

Reactivity-0

Exposure-1

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. After vomiting, give mixture of 2 Tbs. of activated charcoal mixed with one cup of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable, non combustible solution.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area and ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Blue solution. Odorless.

A mixture of water and cupric sulfate.

Saturations: 1 molar, 24% CuSO₄; 0.1 molar, 2.5% CuSO₄;

0.01 molar, 0.25% CuSO₄

Section 10 — Stability and Reactivity

Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: N.A.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD50: 300 mg/kg as CuSO₄.

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #26b is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Flinn Chemical Packaging Prevents Accidents

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 285.10

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Copper(II) Sulfate, Anhydrous

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 3). Toxic if swallowed (H301). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Copper(II) sulfate, anhydrous	7758-98-7	CuSO ₄	159.61	
Synonym: Cupric sulfate, anhydrous				

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Rinse cautiously with water for several minutes (P351).

If swallowed: Rinse mouth. Immediately call a POISON CENTER or physician (P301+P330+P310).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Deliquescent. Store in a cool, dry place within a Flinn Chem-Saf™ bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Off-white powder. Odorless.

Specific gravity: 3.6

Soluble: Water. Practically insoluble in alcohol.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with moisture and finely powdered metals. Will corrode steel.

Shelf life: Poor, deliquescent. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, severe eye irritant, and gastrointestinal disturbances.

ORL-RAT LD₅₀: 300 mg/kg

IHL-RAT LC₅₀: N.A.

Chronic effects: Possible mutagen.

SKN-RBT LD₅₀: N.A.

Target organs: Liver, kidneys, and blood.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-847-6).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

Section 1 — Chemical Product and Company Identification

Cuprous Chloride

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Cuprous Chloride

Synonym: copper (I) chloride

CAS#: 7758-89-6

Section 3 — Hazards Identification

White crystals that turn green on exposure to air and brown on exposure to light. Odorless. Highly toxic by ingestion and inhalation. Body tissue irritant. Avoid ingestion, inhalation and skin absorption.

FLINN AT-A-GLANCE

Health-3
Flammability-0
Reactivity-0
Exposure-1
Storage-1

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. After vomiting, give mixture of 2 Tbs. of activated charcoal mixed with one cup of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable, non combustible solid.

When heated to decomposition, emits toxic chloride fumes.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool dry place. Moisture sensitive material. Store in a Flinn Chem Saf bag. Use and dispense in a hood.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire).

Section 9 — Physical and Chemical Properties

White crystals that turn green on exposure to air and brown on exposure to light. Odorless.

Solubility: Slightly soluble in water; soluble in acids.

Formula: CuCl

Formula Weight: 98.99

Specific Gravity: 4.14

Melting Point: 430 C

Section 10 — Stability and Reactivity

Avoid oxidizing agents, alkali metals and exposure to light.

Shelf life: Good, but changes on exposure to air and light.

Section 11 — Toxicological Information

Acute effects: Toxic, irritant, gastrointestinal disturbances

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD50: 140 mg/kg

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (231-842-9).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

SAFETY DATA SHEET

1. Identification

Product identifier CWT-247
Other means of identification None.
Recommended use CLOSED LOOP TREATMENT PRODUCT
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name Corrosion Technology, Inc.
Address 125 Willowbrook Ln.
West Chester, PA 19382
United States
Telephone (610) 429-1450
Website www.corrosiontechnologyinc.com
E-mail info@corrosiontechnologyinc.com
Emergency phone number (800) 255-3924 ChemTel

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards
Acute toxicity, oral Category 4
Acute toxicity, inhalation Category 4
Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Reproductive toxicity Category 1B

Label elements



Signal word Danger
Hazard statement Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. Harmful if inhaled. May damage fertility or the unborn child.
Precautionary statement
Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear eye protection/face protection. Wear protective gloves/protective clothing/eye protection/face protection.
Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.
Storage Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information 0.03% of the mixture consists of component(s) of unknown acute oral toxicity. 0.6% of the mixture consists of component(s) of unknown acute inhalation toxicity. 3% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium nitrite		7632-00-0	20 - 40
Sodium borate		12179-04-3	1 - 5
Sodium metasilicate, pentahydrate		10213-79-3	1 - 5
Sodium hydroxide		1310-73-2	< 1
Other components below reportable levels			60 - 80

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Sodium borate (CAS 12179-04-3)	STEL	6 mg/m ³	Inhalable fraction.
Sodium hydroxide (CAS 1310-73-2)	TWA	2 mg/m ³	Inhalable fraction.
	Ceiling	2 mg/m ³	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium borate (CAS 12179-04-3)	TWA	1 mg/m ³
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance**Physical state**

Liquid.

Form

Slightly Hazy Liquid.

Color

Nearly colorless

Odor

Characteristic

Odor threshold

Not available.

pH	11.5 - 12.4
Melting point/freezing point	< 40 °F (< 4.4 °C) estimated
Initial boiling point and boiling range	> 212 °F (> 100 °C) estimated
Flash point	None
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 1.0 mm Hg estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	10.51 lb/gal
Percent volatile	> 50 % estimated
Specific gravity	1.26

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Acids. Oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
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Information on toxicological effects

Acute toxicity	Harmful if inhaled. Harmful if swallowed.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.

Respiratory or skin sensitization**Respiratory sensitization** Not a respiratory sensitizer.**Skin sensitization** This product is not expected to cause skin sensitization.**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

Reproductive toxicity May damage fertility or the unborn child.**Specific target organ toxicity - single exposure** Not classified.**Specific target organ toxicity - repeated exposure** Not classified.**Aspiration hazard** Not an aspiration hazard.**Chronic effects** Prolonged inhalation may be harmful.**12. Ecological information****Ecotoxicity** Harmful to aquatic life with long lasting effects.**Persistence and degradability** No data is available on the degradability of this product.**Bioaccumulative potential** No data available.**Mobility in soil** No data available.**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.**13. Disposal considerations****Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.**Local disposal regulations** Dispose in accordance with all applicable regulations.**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.**14. Transport information****DOT****UN number** UN3266**UN proper shipping name** Corrosive liquid, basic, inorganic, n.o.s. (Sodium hydroxide, Sodium nitrite RQ = 313 LBS)**Transport hazard class(es)****Class** 8**Subsidiary risk** -**Label(s)** 8**Packing group** III**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.**Special provisions** IB3, T7, TP1, TP28**Packaging exceptions** 154**Packaging non bulk** 203**Packaging bulk** 241**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

Transport in bulk according to
Annex II of MARPOL 73/78 and
the IBC Code

Not regulated as dangerous goods.

DOT



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
One or more components are not listed on TSCA.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) Listed.
Sodium nitrite (CAS 7632-00-0) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Sodium nitrite	7632-00-0	20 - 40

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sodium borate (CAS 12179-04-3)
Sodium hydroxide (CAS 1310-73-2)

US. Massachusetts RTK - Substance List

Sodium borate (CAS 12179-04-3)
Sodium hydroxide (CAS 1310-73-2)
Sodium nitrite (CAS 7632-00-0)

US. New Jersey Worker and Community Right-to-Know Act

Sodium borate (CAS 12179-04-3)
Sodium hydroxide (CAS 1310-73-2)
Sodium nitrite (CAS 7632-00-0)

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium borate (CAS 12179-04-3)
Sodium hydroxide (CAS 1310-73-2)
Sodium nitrite (CAS 7632-00-0)

US. Rhode Island RTK

Sodium hydroxide (CAS 1310-73-2)
Sodium nitrite (CAS 7632-00-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	05-21-2015
Version #	01
Disclaimer	The manufacturer cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. Identification

Product identifier CWT 3363

Other means of identification

Product code CWT 3363

Recommended use Cooling Water Treatment

Recommended restrictions For Industrial Use Only

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Corrosion Technology, Inc

Address 125 Willowbrook Lane
West Chester, PA 19382
United States

Telephone Not available.

E-mail Not available.

Emergency phone number 1-800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Causes skin irritation. Causes serious eye irritation.

Precautionary statement

Prevention Wash thoroughly after handling. Wear protective gloves. Wear eye/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium hydroxide		1310-73-2	< 10
Other components below reportable levels			> 90

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Not applicable, non-combustible. Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	Not applicable.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties
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Appearance

Physical state	Liquid.
Form	Liquid.
Color	Light Golden Color.
Odor	None.
Odor threshold	Not available.
pH	12.5 estimated
Melting point/freezing point	27 °F (-2.78 °C)
Initial boiling point and boiling range	> 220 °F (> 104.44 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Complete.
Partition coefficient (n-octanol/water)	Not available.

Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	9.33 lbs/gal
Specific gravity	1.118

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Strong acids. Acids. Oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
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Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
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Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
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OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information**DOT**

UN number	UN1760
UN proper shipping name	CORROSIVE LIQUIDS, N.O.S. (SODIUM HYDROXIDE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT**15. Regulatory information**

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	No
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SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sodium hydroxide (CAS 1310-73-2)

US. Massachusetts RTK - Substance List

Sodium hydroxide (CAS 1310-73-2)

US. New Jersey Worker and Community Right-to-Know Act

Sodium hydroxide (CAS 1310-73-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium hydroxide (CAS 1310-73-2)

US. Rhode Island RTK

Sodium hydroxide (CAS 1310-73-2)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 05-31-2015**Version #** 01

HMIS® ratings

Health: 2
 Flammability: 0
 Physical hazard: 0
 Personal protection: C

Disclaimer

Seller cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision Information

Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: Undisclosed Ingredient Statement
Physical & Chemical Properties: Multiple Properties
Ecological Information: Ecotoxicity
Transport Information: Material Transportation Information
Regulatory Information: United States
HazReg Data: Transportation
GHS: Classification

SAFETY DATA SHEET

1. Identification

Product identifier CWT 3740

Other means of identification

Product code CWT 3740

Recommended use Hot and Chilled Water Treatment

Recommended restrictions For Industrial Use Only

Manufacturer/Importer/Supplier/Distributor information

Distributor

Company name Corrosion Technology, Inc

Address 125 Willowbrook Lane
West Chester, PA 19382
United States

Telephone 1-610-429-1450

E-mail Not available.

Emergency phone number 1-800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Acute toxicity, oral Category 5
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2B

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement May be harmful if swallowed. Causes skin irritation. Causes eye irritation.

Precautionary statement

Prevention Wash thoroughly after handling. Wear protective gloves.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium nitrite		7632-00-0	35 - 40

Chemical name	Common name and synonyms	CAS number	%
Sodium hydroxide		1310-73-2	< 2
Other components below reportable levels			> 58

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
Most important symptoms/effects, acute and delayed	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Not applicable, non-combustible. Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	Not applicable.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Yellow.

Odor Mild.

Odor threshold Not available.

pH 12.5 estimated

Melting point/freezing point Not available.

Initial boiling point and boiling range > 212 °F (> 100 °C)

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Complete.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	10.83 lbs/gal
Specific gravity	1.30

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Acids. Oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.
Ingestion	May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.
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Information on toxicological effects

Acute toxicity	May be harmful if swallowed.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
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Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
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IARC Monographs. Overall Evaluation of Carcinogenicity

Not available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not available.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
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Specific target organ toxicity - single exposure	Not classified.
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Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SODIUM NITRITE)
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT



15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Sodium nitrite (CAS 7632-00-0)	1.0 % One-Time Export Notification only.
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CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2)	Listed.
Sodium nitrite (CAS 7632-00-0)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Sodium nitrite	7632-00-0	35 - 40

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sodium hydroxide (CAS 1310-73-2)

US. Massachusetts RTK - Substance List

Sodium hydroxide (CAS 1310-73-2)

Sodium nitrite (CAS 7632-00-0)

US. New Jersey Worker and Community Right-to-Know Act

Sodium hydroxide (CAS 1310-73-2)

Sodium nitrite (CAS 7632-00-0)

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium hydroxide (CAS 1310-73-2)

Sodium nitrite (CAS 7632-00-0)

US. Rhode Island RTK

Sodium hydroxide (CAS 1310-73-2)

Sodium nitrite (CAS 7632-00-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	12-02-2015
Version #	01
HMIS® ratings	Health: 1 Flammability: 1 Physical hazard: 1 Personal protection: C
Disclaimer	Seller cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 290.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Cyclohexane

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 2). Highly flammable liquid and vapor (H225). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Aspiration hazard (Category 1). May be fatal if swallowed and enters airways (H304).

Hazard class: Skin corrosion or irritation (Category 2). Causes skin irritation (H315).

Hazard class: Specific target organ toxicity, single exposure; Narcotic effects (Category 3). May cause drowsiness or dizziness (H336). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Cyclohexane	110-82-7	C ₆ H ₁₂	84.16	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin (or hair): Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353).

If swallowed: Immediately call a POISON CENTER or physician (P301+P310). Do NOT induce vomiting (P331).

SECTION 5 — FIRE FIGHTING MEASURES

Class IB flammable liquid.

Flash point: -20 °C Flammable limits: Lower: 1.3% Upper: 8% Autoignition Temperature: 245 °C

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA Code

H-1

F-3

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #3. Store with hydrocarbons, oils, esters and aldehydes. Store in a dedicated flammables cabinet. If a flammables cabinet is not available, store in Flinn Saf-Stor™ can. Keep container tightly closed (P233). Keep cool (P235). Use only in a hood or well-ventilated area (P271). Ground or bond container and receiving equipment (P240). Use explosion-proof electrical and ventilating equipment (P241).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

Exposure guidelines: PEL 300 ppm (OSHA); TLV 100 ppm (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear colorless liquid. Pungent odor like rubber cement.

Soluble: Many organic solvents. Insoluble in water.

Boiling point: 80.7 °C

Melting point: 6.6 °C

Refractive index: 1.4235

Specific gravity: 0.774

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with heat, open flame, any source of ignition, and strong oxidizers.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant, lung irritation, gastrointestinal disturbances, and chest pain and edema, which may be fatal.

Chronic effects: N.A.

Target organs: Lungs and nerves.

ORL-RAT LD₅₀: 12,705 mg/kg

IHL-MUS LCL₀: 70 g/m³/2H

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #18b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Cyclohexane. Hazard class: 3, Flammable liquid. UN number: UN1145.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (203-806-2), RCRA code U056.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 25, 2014