

MATERIAL SAFETY DATA SHEET

20.00121-
16 00

DATE OF PREPARATION
Jan 9, 2014

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

20.00121-

PRODUCT NAME

H&C® SHIELD PLUS ULTRA™ Acrylic Concrete Stain, Extra White

MANUFACTURER'S NAME

H&C CONCRETE STAINS
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 867-8246 www.hc-concrete.com
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
4	29911-28-2	1-(2-Butoxymethylethoxy)-propanol		
		ACGIH TLV	Not Available	0.06 mm
		OSHA PEL	Not Available	
3	107-21-1	Ethylene Glycol		
		ACGIH TLV	100 MG/M3 CEILING (aerosol)	0.12 mm
		OSHA PEL	50 PPM CEILING	
0.1	14464-46-1	Cristobalite		
		ACGIH TLV	0.025 mg/m3 as Resp. Dust	
		OSHA PEL	0.05 mg/m3 as Resp. Dust	
13	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.

In a confined area vapors in high concentration may cause headache, nausea or dizziness.

Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

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	0
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 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	LEL	UEL	FLAMMABILITY CLASSIFICATION
Not Applicable	Not Applicable	Not Applicable	Not Applicable
	Applicable	Applicable	EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.

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 Applicable

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

- Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. 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).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other 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 more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

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

Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	9.98 lb/gal	1195 g/l
SPECIFIC GRAVITY	1.20	
BOILING POINT	212 - 449 °F	100 - 231 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	70%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
pH	9.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
1.87 lb/gal	224 g/l	Less Water and Federally Exempt Solvents
0.72 lb/gal	86 g/l	Emitted VOC

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

Crystalline Silica (Quartz, Cristobalite) is listed by IARC and NTP. Long term exposure to high levels of silica dust, which can occur only when sanding or abrading the dry film, may cause lung damage (silicosis) and possibly cancer.

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."

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.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
29911-28-2	1-(2-Butoxymethylethoxy)-propanol	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
107-21-1	Ethylene Glycol	LC50 RAT	4HR	Not Available
		LD50 RAT		4700 mg/kg
14464-46-1	Cristobalite	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 is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Incinerate in approved facility. Do not incinerate closed 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)

Not Regulated for Transportation.

Canada (TDG)

Not Regulated for Transportation.

IMO

Not Regulated for Transportation.

IATA/ICAO

Not Regulated for Transportation.

SECTION 15 — REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
107-21-1	Ethylene Glycol	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.

MATERIAL SAFETY DATA SHEET

50.06000-
02 00

DATE OF PREPARATION
Apr 24, 2015

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

50.06000-

PRODUCT NAME

H&C® Concrete Etcher

MANUFACTURER'S NAME

H&C CONCRETE STAINS
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 867-8246 www.hc-concrete.com
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
28	7664-38-2	Phosphoric Acid		
		ACGIH TLV	1 MG/M3	
		ACGIH TLV	3 MG/M3 STEL	
		OSHA PEL	1 MG/M3	
		OSHA PEL	3 MG/M3 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: Causes burns.

SKIN: Causes burns.

INHALATION: Causes burns of the upper respiratory system.

HMIS Codes

Health	3
Flammability	0
Reactivity	0

SIGNS AND SYMPTOMS OF OVEREXPOSURE

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 **IMMEDIATELY**.

SKIN: Wash affected area thoroughly with soap and water.

If irritation persists or occurs later, get medical attention.

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

Not Applicable

LEL

Not

Applicable

UEL

Not

Applicable

FLAMMABILITY CLASSIFICATION

Not Applicable

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.

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 Applicable

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. 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.

Do not get in eyes, or on skin or clothing. Do not breathe vapor or 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).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other 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 more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

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

To prevent skin contact, wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

To prevent eye contact, wear safety spectacles with unperforated sideshields.

OTHER PROTECTIVE EQUIPMENT

Use barrier cream on exposed skin.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	9.67 lb/gal	1159 g/l
SPECIFIC GRAVITY	1.16	
BOILING POINT	212 - 213 °F	100 - 100 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	81%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
pH	<= 2.0	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

0.00 lb/gal	0 g/l	Less Water and Federally Exempt Solvents
0.00 lb/gal	0 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY**STABILITY — Stable****CONDITIONS TO AVOID**

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide, Phosphoric Acid Fumes, Oxides of Phosphorus

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION**CHRONIC HEALTH HAZARDS**

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
7664-38-2	Phosphoric Acid	LC50 RAT	4HR	Not Available
		LD50 RAT		1350 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 corrosivity to determine the applicable EPA hazardous waste numbers.

Incinerate in approved facility. Do not incinerate closed 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)

5 Liters (1.3 Gallons) and Less may be Classed as LTD. QTY. (PAINT OR RELATED).

Larger Containers are Regulated as:

UN1805, PHOSPHORIC ACID SOLUTION, 8, PG III

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities

Phosphoric acid 5000 lb RQ

Bulk Containers may be Shipped as (check reportable quantities):

UN1805, PHOSPHORIC ACID SOLUTION, 8, PG III

Canada (TDG)

UN1805, PHOSPHORIC ACID SOLUTION, CLASS 8, PG III, LIMITED QUANTITY

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.

UN1805, PHOSPHORIC ACID SOLUTION, CLASS 8, PG III

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.

UN1805, PHOSPHORIC ACID SOLUTION, CLASS 8, PG III

IATA/ICAO

UN1805, PHOSPHORIC ACID SOLUTION, 8, PG III

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
---------	-------------------	---------	-----------

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

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.

1. Identification

Product identifier	H.R. 2000
Other means of identification	
SDS number	567N-97B
Product code	HIL00538
Recommended use	Finish Restorer
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	Hazardous to the aquatic environment, acute hazard	Category 3
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	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 sewerer 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 (C12-15 In, Saturated) Ethoxylate		68131-39-5	< 0.3
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	Rinse mouth thoroughly. Drink plenty of water. Get medical attention if any discomfort continues.
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 (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. Material can be slippery when wet. 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	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 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.
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. 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	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	Avoid contact with eyes. Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Not normally needed. 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	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	Translucent, white emulsion
Physical state	Liquid.
Form	Liquid.
Color	White emulsion
Odor	Lemon odor
Odor threshold	Not available
pH	7.5 - 8.5
Melting point/freezing point	Not available
Initial boiling point and boiling range	> 200 °F (> 93.33 °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	17.51 mm Hg
Vapor density	0.7251 AIR=1
Relative density	1.006 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	8.38 lb/gal
Percent volatile	92 - 93 %
VOC	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	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	Not available.
-----------------------	----------------

Product	Species	Test Results
H.R. 2000		
<u>Acute</u>		
Dermal		
LD50	Rabbit	13550 ml/kg estimated
Oral		
LD50	Guinea pig	11924 g/kg estimated
	Mouse	706 g/kg estimated
	Rat	36701 mg/kg estimated
		10027 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	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.
------------------------	---

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

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.

Product**Species****Test Results**

H.R. 2000

Aquatic

Fish

LC50

Fish

997.0091 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 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.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not established.

15. Regulatory information**US federal regulations**

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 regulated.

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** 01-16-2015**Revision date** 04-14-2016**Version #** 02**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.**Revision information** Hazard(s) identification: Disposal
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Physical and chemical properties: Appearance
Physical and chemical properties: Color
Physical and chemical properties: Odor
GHS: Classification

EnvirOx LLC

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT INFORMATION

PRODUCT NAME: **H₂Orange₂ Concentrate 117**

PRODUCT CLASSIFICATION: Water Soluble Cleaner

MANUFACTURER: EnvirOx LLC P.O.Box 2327, Danville, IL 61834-2327
1938 E. Fairchild St. Danville, IL. 61832

TELEPHONE: 217-442-8596 EMERGENCY TELEPHONE: 800-255-3924

SECTION II - INGREDIENTS

HAZARDOUS INGREDIENTS: Hydrogen Peroxide < 4% - CAS No. 7722-84-1

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: None

FLAMMABLE EXPLOSIVE LIMITS % BY VOLUME: Lower: None
Upper: None

FIRE EXTINGUISHING MEDIA: CO₂ or Dry Chemical

SPECIAL FIRE-FIGHTING PROCEDURES: None known

UNUSUAL FIRE AND EXPLOSION HAZARD: None known

SECTION IV - PHYSICAL DATA

BOILING POINT: 212 Degrees F.

SPECIFIC GRAVITY (Water=1): 1.019

SOLUBILITY IN WATER: Complete

MELTING POINT: Unknown

PH: 3.6

APPEARANCE: Clear

ODOR: Citrus

SECTION V - PRODUCT HEALTH HAZARD DATA

PRINCIPAL ROUTES OF ABSORPTION:

- Inhalation - Not Applicable
- Ingestion - May cause stomach upset
- Skin - May cause skin irritation if left on for long periods of time.
- Eye - May cause eye irritation

POSSIBLE SYMPTOMS OF OVEREXPOSURE: Dry skin or stinging sensation

EMERGENCY AND FIRST AID PROCEDURES:

- Inhalation - Not Applicable
- Ingestion - 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 quantities of water. Avoid alcohol.
- Skin - If irritation occurs, rinse thoroughly with water for at least 5 minutes. Apply moisturizing cream. If irritation persists, consult physician.

SECTION V - PRODUCT HEALTH HAZARD DATA (continued)

Eye - Flush eyes with water for at least 15 minutes holding lids apart to ensure complete irrigation. If irritation persists, consult physician.

SECTION VI - REACTIVITY DATA

STABLE: Yes

STABILITY CONDITIONS TO AVOID: None known

INCOMPATIBILITY (Materials to Avoid): Strong Reducing Agents

HAZARDOUS DECOMPOSITION PRODUCTS: None known

HAZARDOUS POLYMERIZATION: Will not occur

SECTION VII - SPILL, LEAK OR DISPOSAL PROCEDURES

WASTE DISPOSAL METHOD: Biodegradable Product. Dispose of container according to state, federal and local laws.

PRECAUTIONS IN HANDLING AND STORING: Store indoors. Store away from strong reducing agents.

OTHER PRECAUTIONS TO BE TAKEN: None known

SECTION VIII - SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS: Local Exhaust OK

PROTECTIVE EQUIPMENT: None

OTHER PROTECTIVE PRECAUTION: None

HMIS CODES: HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0

The exact composition of this material is a trade secret. The information contained herein is correct to the best of our knowledge. The recommendations or suggestions contained in this Data Sheet are made without guarantee or representation as to results. We suggest that you evaluate these recommendations and suggestions in your own laboratory prior to use. Our responsibility for claims arising from breach of warranty, negligence, or otherwise is limited to the purchase price of the material. Freedom to use any patent owned by anyone is not to be inferred from any statement contained herein. WITH REGARD TO THE MATERIAL, SELLER MAKES NO WARRANTY OF ANY KIND WHATEVER, EXPRESS OR IMPLIED, AND ALL WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED BY SELLER.

DATE: 07/05

By Rebecca Melikyan

1. Identification

Product identifier HD EXTRACTION

Other means of identification

Product code HIL00914

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 Serious eye damage/eye irritation Category 2B

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word Warning

Hazard statement Causes eye irritation.

Precautionary statement

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.

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	%
Sodium Bicarbonate	144-55-8	1 - < 3
Sodium Carbonate, Anhydrous	497-19-8	1 - < 3
Sodium tetraborate decahydrate	1303-96-4	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.

Material name: HD EXTRACTION

HIL00914 Version #: 01 Issue date: 10-22-2014

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.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Exposed individuals may experience eye tearing, redness, and discomfort.
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. 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	<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 entry into waterways, sewer, basements or confined areas. 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. 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. ACGIH Threshold Limit Values

Components	Type	Value	Form
Sodium tetraborate decahydrate (CAS 1303-96-4)	STEL	6 mg/m ³	Inhalable fraction.
	TWA	2 mg/m ³	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium tetraborate decahydrate (CAS 1303-96-4)	TWA	5 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. 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	Wear protective gloves.
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

Appearance	Clear, colorless liquid
Physical state	Liquid.
Form	Liquid.
Color	Translucent
Odor	Non-objectional odor
Odor threshold	Not available
pH	9 - 10 Concentrate
Melting point/freezing point	Not applicable / Not available
Initial boiling point and boiling range	200 °F (93.33 °C)
Flash point	200.0 °F (93.3 °C) estimated Not applicable
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	1.071 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	8.92 lb/gal
Percent volatile	84 - 86 %
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	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	No adverse effects due to skin contact are expected.
Eye contact	Causes eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics
Exposed individuals may experience eye tearing, redness, and discomfort.

Information on toxicological effects**Acute toxicity**

Product	Species	Test Results
HD EXTRACTION (CAS Mixture)		
Acute		
<i>Inhalation</i>		
LC50	Guinea pig	29.6296 mg/l, 2 Hours estimated
	Mouse	44.4444 mg/l, 2 Hours estimated
	Rat	85.1852 mg/l, 2 Hours estimated
		0.1539 mg/l, 4 Hours estimated
<i>Oral</i>		
LD50	Rabbit	78578.5781 mg/kg estimated
	Rat	22709.5254 mg/kg estimated
<i>Other</i>		
LD50	Mouse	4142.3413 mg/kg, 30 Days 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 Causes 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.

Product	Species	Test Results
HD EXTRACTION (CAS Mixture)		
Crustacea	EC50 Daphnia	5800 mg/l, 48 hours estimated
Fish	LC50 Fish	23160.0332 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	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)

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	No
---	----

SARA 311/312 Hazardous chemical	No
--	----

SARA 313 (TRI reporting)	Not regulated.
---------------------------------	----------------

US state regulations

US. Massachusetts RTK - Substance List

Sodium tetraborate decahydrate (CAS 1303-96-4)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Sodium tetraborate decahydrate (CAS 1303-96-4)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

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)	No
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	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
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 10-22-2014

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.

Material Safety Data Sheet: HEALTHY HANDS INSTANT ANTISEPTIC, 12 X 16 OZ, US H H

Supersedes Date 07/07/2008

Issuing Date 06/03/2011

1. PRODUCT AND COMPANY IDENTIFICATION**Product Name** HEALTHY HANDS INSTANT ANTISEPTIC, 12 X 16 OZ, US H H**Recommended use** Cleaning agent**Information on Manufacturer**

CHEMSEARCH FE DIV. OF NCH CORP.

BOX 152170

IRVING, TX 75015

Product Code 4106**Chemical nature** Alcoholic solution**Emergency Telephone Number**

CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION**Emergency Overview**

WARNING

Flammable Liquid

Causes eye irritation

May be harmful if swallowed

Keep out of reach of children

Color purple**Potential Health Effects****Principle Route of Exposure****Primary Routes of Entry****Acute Effects****Eyes****Skin****Inhalation****Ingestion****Chronic Toxicity****Target Organ Effects****Aggravated Medical Conditions****Potential Environmental Effects****Physical State** Liquid**Odor** Alcohol

Eye contact

Inhalation, Ingestion.

Causes eye irritation.

Low hazard for usual industrial or commercial handling.

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 may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.

Liver and kidney injuries may occur. Contains a known or suspected carcinogen. Suspect reproductive hazard - contains material which may injure unborn child.

Liver, Kidney, Central nervous system, Respiratory system, Reproductive System, Blood.

Respiratory disorders, Liver disorders, Kidney disorders.

See Section 12 for additional Ecological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
Ethyl alcohol	64-17-5
Aloe barbadensis leaf juice	8001-97-6
Diisopropylamine	108-18-9
Isopropyl myristate	110-27-0
Glycerol	56-81-5

4. FIRST AID MEASURES**General Advice****Eye Contact**

Avoid contact with eyes.

Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if irritation develops and persists.

Skin Contact

No hazards which require special first aid measures.

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 if symptoms occur.

Notes to physician

Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Flash Point** 65 °F / 18 °C**Method**

Closed cup

Autoignition Temperature No information available.**Flammability Limits in Air % Mixture.****Upper** 3.3**Lower** 19**Suitable Extinguishing Media**

Alcohol-resistant foam. Foam. Water spray. Dry powder. Carbon dioxide (CO2).

Specific hazards arising from the chemical

Flammable. 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** 3**Instability** 0**HMIS****Health** 2**Flammability** 3**Instability** 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Environmental Precautions
Methods for Containment

Ensure adequate ventilation.
 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).
 Use clean non-sparking tools to collect absorbed material. Pick up and transfer to properly labeled containers.
 Not applicable.

Methods for Cleaning Up
Neutralizing Agent

7. HANDLING AND STORAGE

Handling

Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with eyes.

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

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
Ethyl alcohol	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³
Aloe barbadensis leaf juice	No data available	No data available	No data available
Diisopropylamine	TWA: 5 ppm Skin	TWA: 5 ppm TWA: 20 mg/m ³ Skin	IDLH: 200 ppm TWA: 5 ppm TWA: 20 mg/m ³
Isopropyl myristate	No data available	No data available	No data available
Glycerol	TWA: 10 mg/m ³	TWA: 15 mg/m ³ TWA: 5 mg/m ³	No data available

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment**Eye/Face Protection**

Not required under normal use.

Skin Protection

Not required under normal use.

Respiratory Protection

Not required under normal use.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	Viscosity	Viscous
Color	purple	Odor	Alcohol
Appearance	Transparent	pH	6.0 - 8.5
Specific Gravity	0.89	Evaporation Rate	1.8 (Butyl acetate=1)
Percent Volatile (Volume)	98	VOC Content (%)	62
VOC Content (g/L)	552	Vapor Pressure	33.1 mmHg @ 70°F
Vapor Density	No information available	Solubility	Soluble
Boiling Point/Range	92 °F / 33 °C		

10. STABILITY AND REACTIVITY

Chemical Stability

Stable. Hazardous polymerization does not occur.

Conditions to Avoid

Heat, flames, and sparks

Incompatible Products

Strong oxidizing agents

Hazardous Decomposition Products

Carbon oxides, Nitrogen oxides (NOx).

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
Ethyl alcohol	7060 mg/kg (Rat)	no data available	124.7 mg/L (Rat) 4 h	no data available	no data available
Aloe barbadensis leaf juice	> 5 g/kg (Rat)	no data available	no data available	no data available	no data available
Diisopropylamine	420 mg/kg (Rat)	> 10000 mg/kg (Rabbit)	> 5.3 mg/L (Rat) 4 h	no data available	no data available
Isopropyl myristate	> 10000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 41 mg/L (Rat)	no data available	no data available
Glycerol	12600 mg/kg (Rat)	> 21900 mg/kg (Rat)	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Ethyl alcohol	no data available	no data available	yes	no data available	eyes, respiratory system, CNS, liver, skin, blood,

					reproductive system
Aloe barbadensis leaf juice	no data available	no data available	no data available	no data available	no data available
Diisopropylamine	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Isopropyl myristate	no data available	no data available	no data available	no data available	no data available
Glycerol	no data available	no data available	no data available	no data available	respiratory system, skin, eyes, kidneys

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA	Other
Ethyl alcohol	A3	Group 1	Known	X	not applicable
Aloe barbadensis leaf juice	not applicable	not applicable	not applicable	not applicable	not applicable
Diisopropylamine	not applicable	not applicable	not applicable	not applicable	not applicable
Isopropyl myristate	not applicable	not applicable	not applicable	not applicable	not applicable
Glycerol	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
Ethyl alcohol	no data available	LC50 12.0 - 16.0 mL/L Oncorhynchus mykiss 96 h LC50 13400 - 15100 mg/L Pimephales promelas 96 h LC50 > 100 mg/L Pimephales promelas 96 h	EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min	EC50 10800 mg/L 24 h EC50 2 mg/L 48 h LC50 9268 - 14221 mg/L 48 h	-0.32
Aloe barbadensis leaf juice	no data available	no data available	no data available	no data available	N/A
Diisopropylamine	EC50 20 mg/L Pseudokirchneriella subcapitata 96 h	LC50 1000 mg/L Poecilia reticulata 96 h LC50 150-223 mg/L Brachydanio rerio 96 h LC50 37 mg/L Oncorhynchus mykiss 96 h LC50 420-560 mg/L Oryzias latipes 96 h	no data available	EC50 25.8 mg/L 24 h	N/A
Isopropyl myristate	EC50 > 100 mg/L Desmodesmus subspicatus 72 h	LC50 8400 mg/L Brachydanio rerio 96 h	no data available	EC50 100 mg/L 48 h	>6
Glycerol	no data available	LC50 51 - 57 mL/L Oncorhynchus mykiss 96 h	no data available	EC50 > 500 mg/L 24 h	-1.76

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. Do not re-use empty containers.

14. TRANSPORT INFORMATION**DOT**

Proper Shipping Name Ethanol Solution
Hazard Class 3
UN-No UN1170
Packing Group II
Description Ethanol ,3,UN1170,PG II

TDG

Proper shipping name Ethanol Solution
Hazard Class 3
UN-No UN1170
Packing Group II
Description ETHANOL,3,UN1170,PG II

ICAO

UN-No UN1170
Proper Shipping Name Ethanol solution
Hazard Class 3
Packing Group II
Shipping Description Ethanol solution,3,UN1170,PG II

IATA

UN-No UN1170
Proper Shipping Name Ethanol solution
Hazard Class 3

Packing Group II
 ERG Code 3L
 Shipping Description UN1170, Ethanol solution, 3, PG II

IMDG/IMO

Proper Shipping Name Ethanol Solution
 Hazard Class 3
 UN-No UN1170
 Packing Group II
 EmS No. F-E, S-D
 Shipping Description UN1170, Ethanol Solution, 3, PG II

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
Ethyl alcohol	Not applicable	Not applicable
Aloe barbadensis leaf juice	Not applicable	Not applicable
Diisopropylamine	Not applicable	Not applicable
Isopropyl myristate	Not applicable	Not applicable
Glycerol	Not applicable	Not applicable

Canada

This product may not be commercially placed on the market in Canada.

WHMIS Hazard Class

Not applicable

16. OTHER INFORMATION

Prepared By Dan Hollas
 Supersedes Date 07/07/2008
 Issuing Date 06/03/2011
 Reason for Revision No information available.
 Glossary No information available.
 List of References. No information available.

CHEMSEARCH FE 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 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.

LUCAS MATERIAL SAFETY DATA SHEET

Lucas Heavy Duty Oil Stabilizer

Product Code: 10001, 10002, 10015, 10091

DIVISION AND LOCATION --- SECTION I

Division: Lucas Oil Products, Inc. • 302 North Sheridan Street • Corona, CA 92880-2067

Emergency Telephone Number: (800) 342-2512

CHEMICAL AND PHYSICAL PROPERTIES --- SECTION II

Chemical Name: Petroleum hydrocarbon plus additives.

Formula: N/A

Hazardous Decomposition Products: Carbon monoxide and carbon dioxide from burning. Oxides from burning. Oxides of phosphorous from burning. Oxides of sulphur.

Incompatibility (keep away from): Strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.

Toxic and Hazardous Ingredients: None

Form: Liquid Odor: Petroleum

Appearance: Liquid

Color: Light Brown

Specific Gravity (water = 1): .89

Boiling Point: Greater than 371° C (700° F)

Melting Point: -18° C (0° F)

Solubility in Water (by weight %): -0- @ 20° C

Volatile (by weight %): -0-

Evaporation Rate: -0-

Vapor Pressure (mm Hg @ 20° C): -0-

Vapor Density (air = 1): N/A

pH (as is): N/A

Stability: Product is stable under normal conditions

Viscosity cSt @ 100° C: Greater than or = to 100

FIRE AND EXPLOSION DATA --- SECTION III

Special Fire Fighting Procedures (air): Do not use water except as fog

Unusual Fire and Explosion Hazards: None

Flashpoint: (Method Used) Cleveland open cup - greater than 204° C (399° F)

Flammable Limits%: N/A

Extinguishing Agent: Dry chemical, Waterfog, CO 2 or Foam

HEALTH HAZARD DATA --- SECTION IV

Permissible Concentrations (air): If used in applications where a mist may be generated, observe a TWA/PEL of 5 mg/m3 for mineral oil mist (OSHA and ACGIH).

Chronic Effects of Over-Exposure: Prolonged or repeated skin contact may cause dermatitis (skin irritation).

Acute Toxicological Properties: No data available.

Emergency First Aid Procedures:

Eyes: Flush with large amounts of water for a least 15 minutes. If irritation persists, call a physician.

Skin: Remove excess with cloth or paper. Wash thoroughly with soap and water.

Inhalation: Remove victim to fresh air. Call a physician.

Ingestion: Contact a physician immediately.

=====

SPECIAL PROTECTION INFORMATION --- SECTION V

=====

Ventilation type required (local, mechanical, special): None

Respiratory protection (specify type): None

Protective gloves: Neoprene type.

Eye protection: Chemical safety goggles.

Other protective equipment: None

=====

HANDLING OF SPILLS OF LEAKS --- SECTION VI

=====

Procedures for Clean-Up: Transfer bulk of mixture into another container. Absorb residue with an inert material such as earth, sand, or vermiculite. Sweep up and dispose as solid waste in accordance with local, state, and federal regulations.

Waste Disposal: Dispose of in accordance with all applicable federal, state and local regulations.

=====

SPECIAL PRECAUTIONS --- SECTION VII

=====

Precautions to be taken in handling and storage: Do not handle or store at temperatures over.....

Maximum Storage Temperature: 66° C (150° F).

=====

TRANSPORTATION DATA --- SECTION VII

=====

D.O.T: Not regulated

Reportable Quantity: N/A

Freight Classification: Petroleum lubricating oil.

Special Transportation Notes: None

=====

Prepared By: Dell Findley **Title:** Lab Technician **Original Date:** 07-01-94 **Updated:** 01-01-04

=====

We believe the statements, technical information, and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

Helium

Section 1. Identification

GHS product identifier : Helium
Chemical name : Helium
Other means of identification : helium (dot); Helium-4; He; o-Helium; UN 1046
Product use : Synthetic/Analytical chemistry.
Synonym : helium (dot); Helium-4; He; o-Helium; UN 1046
SDS # : 001025
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.

Section 3. Composition/information on ingredients

Substance/mixture : Substance
Chemical name : Helium
Other means of identification : helium (dot); Helium-4; He; o-Helium; UN 1046

CAS number/other identifiers

CAS number : 7440-59-7
Product code : 001025

Ingredient name	%	CAS number
Helium	100	7440-59-7

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.
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.

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
Helium	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. [Compressed gas.]
Color	: Colorless.
Molecular weight	: 4 g/mole
Molecular formula	: He
Boiling/condensation point	: -268.9°C (-452°F)
Melting/freezing point	: -272.2°C (-458°F)
Critical temperature	: -267.9°C (-450.2°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	: 0.14 (Air = 1) Liquid Density@BP: 7.8 lb/ft ³ (125 kg/m ³)
Specific Volume (ft³/lb)	: 96.1538
Gas Density (lb/ft³)	: 0.0104
Relative density	: Not applicable.
Solubility	: Not available.
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: 0.28
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.
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
Helium	0.28	-	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	UN1046	UN1046	UN1046	UN1046	UN1046
UN proper shipping name	HELIUM, COMPRESSED	HELIUM, COMPRESSED	HELIUM, COMPRESSED	HELIUM, COMPRESSED	HELIUM, 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	-	-	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:** Not determined
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
Helium	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 :

Chemical Weapons Convention List Schedule II Chemicals :

Chemical Weapons Convention List Schedule III Chemicals :

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.)



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.

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

Date of printing	: 10/15/2014.
Date of issue/Date of revision	: 10/15/2014.
Date of previous issue	: 10/2/2014.
Version	: 0.02
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.

SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product Identifier : **Henry® 430 ClearPro™ Clear VCT Floor Adhesive**
Product Code : 70010432
Trade Name/Synonyms : Henry 430
Recommended Use : Adhesive for installing Vinyl Composition Tile (VCT).
Uses Advised Against : No information available.

Manufacturer's name and address:

HENRY

The W.W. Henry Company
400 Ardex Park Drive
Aliquippa, PA 15001 USA

Information Telephone No. : (800) 232-4832 or (724) 203-8000
Website Address : <http://www.wwhenry.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.

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 is comprised of ingredients with unknown acute toxicity.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (by weight)
No hazardous ingredients	N/Ap	100

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>	: None known.
<i>Skin</i>	: Symptoms may include mild redness or itching.
<i>Eyes</i>	: Symptoms may include mild redness, itching, or pain.
<i>Ingestion</i>	: None known.

Effects of long-term (chronic) exposure

: None known.

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	: <u>0 - Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe</u> <i>Health: 1 Flammability 1 Instability 0 Special Hazards: None</i>

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 14 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.

Ingredients	CAS #	ACGIH TLV		OSHA PEL	
		TWA	STEL	PEL	STEL
No hazardous ingredients	N/Ap	N/Ap	N/Ap	N/Ap	N/Ap

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	: Beige paste
Odor	: Mild	Odor threshold	: N/Av
pH	: 8.5 – 9.5	Specific gravity	: 1.045
Boiling point	: 212°F (100°C)	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 (<i>n</i>-Butyl acetate = 1)	: N/Av
Vapor density (Air = 1)	: N/Av	Volatiles (% by weight)	: Approximately 53 – 55%
Volatile organic compounds (VOCs)	: 1.1 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	: Setaflash closed	Upper flammable limit (% by vol)	: Not available
Auto-ignition temperature	: N/Av	Decomposition temperature	: Not available
Viscosity	: 25,000 cSt	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.
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>	: > 40 mg/L
<i>Oral</i>	: > 4000 mg/kg
<i>Dermal</i>	: > 4000 mg/kg
Toxicological data	: There are no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC50 (4 hr)		LD50	
	Inhalation, rat	Oral, rat	Dermal, rabbit	
No hazardous ingredients.	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	: No components are classified as carcinogenic by IARC, ACGIH, NTP, and OSHA.
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				

IATA : Not regulated for Air Transport

IMDG : Not regulated for Ocean Transport

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 does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

Other State Right to Know Laws: Not applicable.

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. The W.W. Henry Company 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.

Prepared By:
The W.W. Henry Company
400 Ardex Park Drive

Aliquippa, PA, U.S.A.
15001

(724) 203-8000
Visit our Website: <http://www.wwhenry.com>

Revision date: : 01-Mar-2015

End of Document

Material Safety Data Sheet

Material Name: HENRY 547

MSDS ID: WWHC-004

*** Section 1 - Chemical Product and Company Identification ***

Manufacturer's Part Number: H547

Chemical Name: Cement-based Underlayment

Product Use: Feather-Edge Underlayment

Manufacturer Information

The W.W. Henry Company
400 Ardex Park Drive
Aliquippa, PA 15001

Phone: 724-203-8213 or 724-203-8445

Emergency # CHEMTREC U.S. 800-424-9300

*** Section 2 - Hazards Identification ***

Emergency Overview

Product is a gray powder. Severe Irritant/Possible Burns. Toxic. Combines with available moisture such as that on skin, in eyes, or on mucous membranes to produce a substance capable of causing severe irritation or chemical burns. Harmful if inhaled, swallowed or allowed to remain in contact with the skin.

Hazard Statements

WARNING! Causes severe irritation and possible burns. Do NOT get into eyes, on skin or on clothing. Do NOT breathe vapor. Do NOT swallow. Wash thoroughly after handling. Clean contaminated clothing before reuse. Keep container tightly closed. Use only with adequate ventilation. Keep out of the reach of children.

Potential Health Effects: Eyes

Causes severe irritation and possible burns depending on amount and duration of exposure. Combines with moisture present in eyes to produce a corrosive substance capable of causing chemical burns. Smaller amounts of dust may cause irritation.

Potential Health Effects: Skin

Will combine with any moisture on the skin to produce a corrosive material which causes severe irritation or burns to the skin depending on amount and duration of exposure.

Potential Health Effects: Ingestion

Will severely irritate the gastrointestinal tract. Can cause intestinal blockage if ingested in large amounts.

Potential Health Effects: Inhalation

May cause severe irritation or burns if inhaled. This material will combine with moisture in the lungs to produce a corrosive substance capable of causing severe irritation, burns or lung damage depending on amount and duration of exposure.

Medical Conditions Aggravated by Exposure

This material may worsen existing respiratory or skin conditions.

HMIS Ratings: Health: 3* Fire: 0 Reactivity: 0 Pers. Prot.: gloves, safety glasses, protective clothing

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Material Safety Data Sheet

Material Name: HENRY 547

MSDS ID: WWHC-004

*** Section 3 - Composition / Information on Ingredients ***

CAS #	Component	Percent
1317-65-3	Limestone	30-60
65997-15-1	Portland cement	15-40
65997-16-2	Cement, alumina, chemicals	10-30
39445-23-3	Calcium magnesium hydroxide (CaMg(OH)4)	3-7

Component Information/Information on Non-Hazardous Components

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication). This product is a controlled product under the criteria specified in the Canadian Workplace Hazardous Materials Information System (WHMIS).

Trace impurities and additional material names not listed above may also appear in Section 15 toward the end of the MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

*** Section 4 - First Aid Measures ***

First Aid: Eyes

Immediately flush eyes with large amounts of water, including under the eyelids, for 15-30 minutes. Remove contact lenses if present and easy to do. Obtain immediate medical attention.

First Aid: Skin

In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Wash with mild soap if needed to completely remove material. Obtain immediate medical attention.

First Aid: Ingestion

Obtain immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

First Aid: Inhalation

If inhaled, immediately remove the affected person to fresh air. If not breathing, have qualified personnel give artificial respiration and seek medical attention immediately.

First Aid: Notes to Physician

Product reacts with moisture producing a highly alkaline pH of 12-13.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards

See Section 9 for Flammability Properties.

Material is not flammable.

Hazardous Combustion Products

Under conditions of fire, material may decompose and emit oxides of calcium, oxides of magnesium, oxides of iron, oxides of aluminum, carbon monoxide, carbon dioxide, and/or low molecular weight hydrocarbons.

Material Safety Data Sheet

Material Name: HENRY 547

MSDS ID: WWHC-004

Extinguishing Media

Use extinguishing media appropriate for surrounding materials.

Fire Fighting Equipment/Instructions

Firefighters should wear full-face, self contained breathing apparatus and impervious protective clothing.

Firefighters should avoid inhaling any combustion products.

NFPA Ratings: Health: 3 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

* * * Section 6 - Accidental Release Measures * * *

Personal Precautions

Do NOT get into eyes, on skin or on clothing. Do NOT breathe vapor. Do NOT swallow. Wash thoroughly after handling. Clean contaminated clothing before reuse. Keep container tightly closed. Use only with adequate ventilation.

Containment Procedures

Wear appropriate personal protective equipment to prevent contact with material during clean up procedure, including impervious gloves and safety glasses. Contain spill with inert material. Block any potential routes to water systems.

Environmental Precautions

Prevent discharge into sewers or waterways.

Clean-Up Procedures

Pick up material and place into DOT or TDG approved container. Ventilate the area. If spill is large, be prepared to isolate the hazard area. Deny access to the spill area to persons who are not involved in the cleanup and/or who have not been properly trained in spill management. Ventilate the contaminated area.

Evacuation Procedures

Isolate area. Keep unnecessary personnel away.

Special Procedures

Material is corrosive when in contact with moisture; avoid contact during clean up.

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Normal, ambient ventilation should be sufficient. Avoid creating dust. If work process generates excessive quantities of dust, or exposures in excess of the PEL, wear a respirator. Avoid contact with skin and eyes. Avoid prolonged or repeated skin contact with this material. Avoid breathing dust from this product. Use this product with adequate ventilation. Keep away from heat and direct sunlight. Wear protective goggles and gloves when handling material. Wash thoroughly after handling.

Material Safety Data Sheet

Material Name: HENRY 547

MSDS ID: WWHC-004

Storage Procedures

Store in a cool, dry, well-ventilated area. Store away from heat and open flame. Avoid storing bags in direct sunlight. Do not store in open, unlabeled or mislabeled containers. Keep bags closed and upright when not in use to prevent leakage. Open bags carefully and slowly. Avoid creating dust. Keep product dry until used. Avoid breakage of bagged material.

* * * Section 8 - Exposure Controls / Personal Protection * * *

A: Component Exposure Limits

Consult local authorities for acceptable exposure limits.

Limestone (1317-65-3)

OSHA:	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
NIOSH:	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)
Alberta:	10 mg/m3 TWA
British Columbia:	10 mg/m3 TWA (total dust); 3 mg/m3 TWA (respirable fraction) 20 mg/m3 STEL (total dust)
New Brunswick:	10 mg/m3 TWA (particulate matter containing no asbestos and < 1% crystalline silica)
NW Territories:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Nunavut:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Quebec:	10 mg/m3 TWAEV (total dust, containing no asbestos and less than 1% crystalline silica)
Saskatchewan:	10 mg/m3 TWA 20 mg/m3 STEL
Yukon:	30 mppcf TWA; 10 mg/m3 TWA 20 mg/m3 STEL

Portland cement (65997-15-1)

ACGIH:	10 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica)
OSHA:	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
NIOSH:	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)
Alberta:	10 mg/m3 TWA
British Columbia:	10 mg/m3 TWA (total particulate matter containing no asbestos and less than 1% crystalline silica); 3 mg/m3 TWA (respirable particulate matter containing no asbestos and less than 1% crystalline silica)
Manitoba:	10 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica)
New Brunswick:	10 mg/m3 TWA (particulate matter containing no asbestos and < 1% crystalline silica)
NW Territories:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Nova Scotia:	10 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica)
Nunavut:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Ontario:	10 mg/m3 TWAEV (total dust, containing no asbestos and less than 1% crystalline silica)
Quebec:	10 mg/m3 TWAEV (total dust, containing no asbestos and less than 1% crystalline silica); 5 mg/m3 TWAEV (respirable dust, containing no asbestos and less than 1% crystalline silica)
Saskatchewan:	10 mg/m3 TWA 20 mg/m3 STEL
Yukon:	30 mppcf TWA; 10 mg/m3 TWA 20 mg/m3 STEL

Engineering Controls

Ventilation should effectively remove and prevent buildup of any dust generated from the handling of this product.

Material Safety Data Sheet

Material Name: HENRY 547

MSDS ID: WWHC-004

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Chemical splash goggles or safety glasses with side shields are recommended.

Personal Protective Equipment: Skin

Wear impervious gloves and protective clothing. Rubber or latex gloves are recommended.

Personal Protective Equipment: Respiratory

Under normal conditions of use, respiratory protection should not be necessary. If work process generates excessive quantities of dust, or exposures in excess of the PEL, wear a respirator.

Personal Protective Equipment: General

Eye wash fountains and emergency showers are required in the workplace when handling corrosive substances. Use good industrial hygiene practices when handling this material.

*** Section 9 - Physical & Chemical Properties ***

Appearance:	Powder	Color:	Gray
Odor:	Cement Odor	Physical State:	Solid
pH:	12-13	Vapor Pressure:	Not available
Vapor Density:	Not available	Boiling Point:	Not applicable
Melting Point:	Not available	Solubility in Water:	<5%
Density:	3	Flash Point:	Not applicable
Flash Point Method:	Not applicable	LFL:	Not applicable
Auto Ignition:	Not applicable	UFL:	Not applicable
Bulk Density:	25-27 lbs/gal	Percent Volatile:	0%
VOC:	0 g/L		

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

Stable under normal conditions.

Conditions to Avoid

Protect from moisture.

Incompatibility

Avoid contact with acids or moisture. Reacts with acid to produce carbon dioxide. Contact with moisture produces corrosive material.

Hazardous Decomposition

Under conditions of fire, material may decompose and emit oxides of calcium, oxides of magnesium, oxides of iron, oxides of aluminum, carbon monoxide, carbon dioxide, and/or low molecular weight hydrocarbons.

Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

Material Safety Data Sheet

Material Name: HENRY 547

MSDS ID: WWHC-004

*** Section 11 - Toxicological Information ***

Acute Dose Effects

A: General Product Information

Material is corrosive and will cause burns when in contact with moist skin or eyes. Toxic. Harmful if swallowed.
May cause severe irritation or damage to lungs if inhaled in significant quantities.

B: Component Analysis - LD50/LC50

No LD50/LC50's are available for this product's components.

Repeated Dose Effects

Repeated or prolonged exposure to dust may cause damage to the lungs.

Corrosivity

Material is corrosive when in contact with moisture. Can cause skin and eye burns.

Carcinogenicity

A: General Product Information

No information is available for the product.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

No information is available for the product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

Bioaccumulation & Accumulation

Not expected to bioaccumulate.

Mobility in Environmental Media

No information is available for the product.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

A: General Product Information

Material, if discarded, may be a D003 characteristic hazardous waste under RCRA. You must test your waste using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Material Safety Data Sheet

Material Name: HENRY 547

MSDS ID: WWHC-004

Disposal Instructions

Dispose of container and any unused contents in accordance with Federal, State, Provincial, and Local Waste Disposal Regulations. Do not flush unused contents or residue down drains. Do not reuse bags.
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Not regulated as a hazardous material for transport.

TDG Information

Shipping Name: Not regulated as a dangerous good for transport

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

No information available for the product.

B: Component Analysis

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

Acute Health: Yes **Chronic Health:** Yes **Fire:** No **Pressure:** No **Reactive:** No

C: Component Marine Pollutants

No information is available.

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	Yes	Yes	Yes
Portland cement	65997-15-1	No	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

WHMIS Classification: E, D2A

Material Safety Data Sheet

Material Name: HENRY 547

MSDS ID: WWHC-004

Additional Regulatory Information

A: General Product Information

No additional information available for the product.

B: Component Analysis – Inventory

Component	CAS #	TSCA	CAN	EEC
Limestone	1317-65-3	Yes	NDSL	EINECS
Portland cement	65997-15-1	Yes	DSL	EINECS
Cement, alumina, chemicals	65997-16-2	Yes	DSL	EINECS
Calcium magnesium hydroxide (CaMg(OH) ₄)	39445-23-3	Yes	NDSL	EINECS

*** Section 16 - Other Information ***

Other Information

Additional Safety Information for Consumers:

Keep locked up and out of the reach of children.

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).

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; CPR = Controlled Products Regulations; DOT = Department of Transportation; DSL = Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; mg/m³ = milligrams per Cubic Meter; MSHA = Mine Safety and Health Administration; NA = Not Applicable or Not Available; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; SARA = Superfund Amendments and Reauthorization Act; TDG = Transport Dangerous Goods; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System.

End of Sheet WWHC-004

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 389.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Hexanes

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 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; 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
Hexanes (mixture of isomers)	110-54-3	C ₆ H ₁₄	86.18	

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.

Flash point: -22 °C Flammable limits: Lower: 1.1% Upper: 7.5% Autoignition Temperature: 225 °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 #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: TLV 500 ppm Ceiling 1000 ppm (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless liquid. Odor like paint thinner.

Soluble: Alcohol, acetone, and ether. Insoluble in water.

Boiling point: 69 °C

Melting point: -95 °C

Refractive index: 1.3727

Specific gravity: 0.66

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, chlorine, fluorine, and magnesium perchlorate.

Shelf life: Indefinite, 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

IHL-RAT LC₅₀: 48,000 ppm/4H

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 #18a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Hexanes. Hazard class: 3, Flammable liquid. UN number: UN1208.

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: March 25, 2014

FABER CASTELL CORP -- 4506, HIGGINS PEN CLEANER -- 7510-00-558-2422

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

Product ID:4506, HIGGINS PEN CLEANER

MSDS Date:03/31/1992

FSC:7510

NIIN:00-558-2422

MSDS Number: BWSSH

=== Responsible Party ===

Company Name:FABER CASTELL CORP

Address:551 SPRING PLACE ROAD

Box:330

City:LEWISBURG

State:TN

ZIP:37091-3447

Country:US

Info Phone Num:615-359-1583

Emergency Phone Num:615-359-1583

Preparer's Name:ANDREW TOROK

CAGE:32988

=== Contractor Identification ===

Company Name:FABER CASTELL CORP

Address:551 SPRING PLACE ROAD

Box:330

City:LEWISBURG

State:TN

ZIP:37091-3447

Country:US

Phone:615-359-1583

CAGE:32988

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

Ingred Name:MILD ALKALINE DETERGENT

Ingred Name:SODIUM METASILICATE PENTAHYDRATE

CAS:10213-79-3

Fraction by Wt: 3.0%

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

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

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:ACUTE:IRRITATION TO MUCOUS MEMBRANE.

Explanation of Carcinogenicity:MFR GAVE THE ABOVE LISTINGS ON THE MSDS
BUT NO OTHER COMMENTS WERE RECORDED.

Effects of Overexposure:EYE IRRITANT.

Medical Cond Aggravated by Exposure:NONE KNOWN.

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

First Aid:INHALATION:NOT AN INHALATION HAZARD. EYES:FLUSH W/WATER.

SKIN:FLUSH W/WATER. INGESTION:DRINK LARGE AMOUNT OF WATER/MILK. GET
MEDICAL ATTENTION. HMIS:IF IRRITATION PERSISTS OR IS SEVERE, GET
MEDICAL AT TENTION.

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

Fire Fighting Procedures:NON-FLAMMABLE
 Unusual Fire/Explosion Hazard:NON-FLAMMABLE

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

Spill Release Procedures:FLUSH W/WATER
 Neutralizing Agent:MFR GAVE NO INFORMATION ON MSDS.

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

Handling and Storage Precautions:NONE
 Other Precautions:NONE

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

Eye Protection:N/A - VOID SPLASHING
 Work Hygienic Practices:GOOD HOUSEKEEPER
 Supplemental Safety and Health
 NONE

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

HCC:N1
 NRC/State Lic Num:NONE
 Boiling Pt:B.P. Text:212F,100C
 Vapor Pres:N/D
 Vapor Density:N/D
 Spec Gravity:1.02
 pH:10.5
 Solubility in Water:100%
 Appearance and Odor:LIGHT BLUE LIQUID, MILD SOAP

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

Stability Indicator/Materials to Avoid:YES
 NONE
 Stability Condition to Avoid:NONE
 Hazardous Decomposition Products:NONE
 Conditions to Avoid Polymerization:WILL NOT OCCUR.

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

Waste Disposal Methods:NON-HAZARDOUS WASTE. DISPOSE OF I/A/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,
 expressly or implied, warrants this information to be accurate and
 disclaims all liability for its use. Any person utilizing this
 document should seek competent professional advice to verify and
 assume responsibility for the suitability of this information to their
 particular situation.

MSDS

Material Safety Data Sheets

Refine Your Search:

Waterproof Black Drawing Ink

Faber-Castell Corp.

FABER-CASTELL CORP -- HIGGINS WATERPROOF BLACK DRAWING INK 4415-441

MSDS Safety Information

FSC: 7510

NIIN: 00-923-0248

MSDS Date: 02/28/1994

MSDS Num: CKZTJ

Product ID: HIGGINS WATERPROOF BLACK DRAWING INK 4415-4419

MFN: 01

Responsible Party

Cage: 07103

Name: FABER-CASTELL CORP

Address: 551 SPRING PLACE RD

Box: 330

City: LEWISBURG TN 37091

Info Phone Number: 201-483-4646

Emergency Phone Number: 615-359-1583

Preparer's Name: ANDREW TORAK

Review Ind: Y

Published: Y

Contractor Summary

Cage: 07103

Name: FABER-CASTELL CORP

Address: 551 SPRING PLACE RD

Box: 330

City: LEWISBURG TN 37091

Phone: 201-483-4646

Item Description Information

Item Manager: GSA

Item Name: INK,DRAWING

Unit of Issue: OZ
UI Container Qty: 0
Type of Container: BOTTLE

Health Hazards Data

Carcinogenicity Inds - NTP: NO
IARC: NO
OSHA: NO
First Aid: EYES: FLUSH WITH WATER. SKIN: WASH WITH SOAP AND WATER.
INGESTION:
IF LARGE QUANTITIES INGESTED, SEE PHYSICIAN.

Handling and Disposal

Spill Release Procedures: FLUSH WITH WATER.
Waste Disposal Methods: NON-HAZARDOUS WASTE.
Handling And Storage Precautions: KEEP FROM FREEZING.

Fire and Explosion Hazard Information

Extinguishing Media: NONFLAMMABLE
Fire Fighting Procedures: NONFLAMMABLE
Unusual Fire/Explosion Hazard: NONE

Control Measures

Work Hygienic Practices: WASH WITH SOAP AND WATER.

Physical/Chemical Properties

Boiling Point: =100.C, 212.F
B.P. Text: 100C
Spec Gravity: 1.03-1.04
Solubility in Water: DISPERSIABLE
Appearance and Odor: BLACK INDIA INKK ORDORLESS

Reactivity Data

Stability Indicator: YES
Stability Condition To Avoid: NONE
Materials To Avoid: NONE
Hazardous Decomposition Products: NONE

Transportation Information

Responsible Party Cage: 07103
Trans ID NO: 156271
Product ID: HIGGINS WATERPROOF BLACK DRAWING INK 4415-4419

MSDS Prepared Date: 02/28/1994

Review Date: 04/21/2000

MFN: 1

Multiple KIT Number: 0

Unit Of Issue: OZ

Container QTY: 0

Type Of Container: BOTTLE

=====

Detail DOT Information

=====

DOT PSN Code: ZZZ

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

=====

Detail IMO Information

=====

IMO PSN Code: ZZZ

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

=====

Detail IATA Information

=====

IATA PSN Code: ZZZ

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

=====

Detail AFI Information

=====

AFI PSN Code: ZZZ

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

=====

HAZCOM Label

=====

Product ID: HIGGINS WATERPROOF BLACK DRAWING INK 4415-4419

Cage: 07103

Company Name: FABER-CASTELL CORP

Street: 551 SPRING PLACE RD

PO Box: 330

City: LEWISBURG TN

Zipcode: 37091

Health Emergency Phone: 615-359-1583

Label Required IND: Y

Date Of Label Review: 03/15/2001

Status Code: A

Origination Code: G

=====

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 expressly or implied warrants, states, or intends said information to have any application, use or viability by or to any person or persons outside the Department of Defense nor any person or persons contracting with any instrumentality of the United

States of America and disclaims all liability for such use. Any person utilizing this instruction who is not a military or civilian employee of the United States of America should 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.

[Back](#)

U.S. Oil Co., Inc.

Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 920-735-8298

PRODUCT NO.: 200

MATERIAL SAFETY DATA SHEET

PRODUCT TRADE NAME:

Zinc Free Multivis #15 HVI-FM

REVISION NUMBER: 12
PREPARATION/REVISION DATE: 07/11/01
REVISED FROM (DATE): 02/12/01

EMERGENCY PHONE #: (920)-735-8298
NFPA CODE: Health: 2 Fire: 1 Reactivity: 1
HMIS CODE: Health: 1 Fire: 1 Reactivity: 1

SECTION 1 - HAZARDOUS INGREDIENTS

This material is not known to contain greater than 0.1% of any carcinogen required to be listed under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

<u>Component</u>	<u>Cas #</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Distillate solvent dewaxed oils	64742-65-0	5 mg/m ³	5 mg/m ³
Hydrotreated paraffinic oils	64742-54-7	5 mg/m ³	5 mg/m ³
Hydrotreated paraffinic oils	64741-88-4	5 mg/m ³	5 mg/m ³
Acrylic Copolymer	68171-46-0	5 mg/m ³	5 mg/m ³
Hydrogen Sulfide	7783-06-4	10 mg/m ³	10 mg/m ³
Diphenylamine	122-39-4	10 mg/m ³	10 mg/m ³
Hydrotreated Light Naphthenic oils	64742-53-6	5 mg/m ³	5 mg/m ³

SECTION 2 - FIRE AND EXPLOSION HAZARDS

FLASH POINT: 209°F
FLAMMABLE LIMIT: 10% (Estimated value)
LOWER FLAMMABLE LIMIT: 1% (Estimated value)

EXTINGUISHING MEDIA:

CO₂, dry chemical, foam, water spray, water fog

SPECIAL FIRE FIGHTING PROCEDURES:

Wear self contained breathing apparatus with full face piece. Cool exposed containers with water spray. Avoid breathing fumes.

UNUSUAL FIRE & EXPLOSION HAZARDS:

Toxic fumes may be evolved on burning or exposure to heat. Pressure may increase in overheated closed containers. Store below 120°F.

SECTION 3 - HEALTH HAZARD DATA

« ACUTE EXPOSURE »

- ORAL TOXICITY: The LD50 in rats is > 5000 mg/kg. Based on data from components or similar materials.
- EYE IRRITATION: Eye irritant. Based on data from components or similar material.
- SKIN IRRITATION: Skin irritant. Based on data from components or similar materials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
- DERMAL TOXICITY: The LD50 in rabbits is > 2000 mg/kg. Based on data from components or similar materials.
- INHALATION TOXICITY: High concentrations may cause headaches, dizziness, concentrations may cause narcosis (sleepiness, drowsiness).
- RESPIRATORY IRRITATION: If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract similar to that observed with mineral oil. Based on data from components or similar materials. Under good industrial hygiene practices where all exposure limits are observed respiratory irritation should not be a problem.
- DERMAL SENSITIZATION: No data available to indicate product or components may be a skin sensitizer.
- INHALATION SENSITIZATION: No data available to indicate product or components may be a respiratory sensitizer.

« CHRONIC EXPOSURE »

- CHRONIC TOXICITY: No data available to indicate product or components present at greater than 1% are chronic health hazards.
- CARCINOGENICITY: No data available to indicate any components present at greater than 0.1% may present a carcinogenic hazard.
- MUTAGENICITY: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

REPRODUCTIVE TOXICITY: No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity.

TERATOGENICITY: Diphenylamine (less than 0.02% of this product) is reported teratogenic in rats when administered through food or gavage seven days before delivery.

« ADDITIONAL INFORMATION »

OTHER: No other health hazards known.

EXPOSURE LIMITS: See Hazardous Ingredients Section for any applicable exposure limits for components.

SECTION 3A - EMERGENCY FIRST AID PROCEDURES

SKIN: Wash with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse.

EYE: Flush with water at least 15 minutes. Get medical attention if eye irritation develops or persists.

INHALATION: Remove exposed person to fresh air if adverse effects are observed.

ORAL: DO NOT INDUCE VOMITING! If conscious, give 2 glasses of water. Get immediate medical attention.

ADDITIONAL: Note to physician: treat symptomatically.

SECTION 4 - SPECIAL PROTECTION INFORMATION

VENTILATION PROCEDURE: Use local exhaust ventilation to control dust.

GLOVE PROTECTION: Neoprene or Nitrile Gloves Recommended.

EYE PROTECTION: Safety glasses recommended.

RESPIRATORY PROTECTION: Normally not required, mask or respirator for mists.

CLOTHING RECOMMENDATION: As needed to prevent repeated or prolonged contact.

SECTION 5 - PHYSICAL DATA

VAPOR PRESSURE: Less than 0.01 mm Hg @ 20 C
PH: Essentially Neutral
SPECIFIC GRAVITY: 0.8
LB/GAL: 7.3
API GRAVITY: 29.6
WATER SOLUBILITY: Insoluble
PERCENT VOLATILE: Negligible from open container in 4 hours @ 38 C (100 F)
VAPOR DENSITY: Greater than 1 (Air = 1)
EVAPORATION RATE: Less than 0.01 (@1 ATM and 25 C. n-butyl acetate = 1)
ODOR: Mild Petroleum oil like
APPEARANCE: Amber Viscous Liquid
VISCOSITY: 14.5 – 15.5cSt @ 40°C 5.1 Ref. cSt @ 100°C

SECTION 6 - STABILITY

STABILITY: Stable
INCOMPATIBILITY: Oxidizing agents and acids.
POLYMERIZATION: Will not occur.
THERMAL DECOMPOSITION: Smoke, carbon monoxide, aldehydes and other products of incomplete combustion. Hydrogen sulfide and short chain alkyl mercaptans may also be released. Under combustion conditions, oxides of the following elements will be formed: Nitrogen, Phosphorus, Sulfur.

SECTION 7 - SPILL OR LEAK PROCEDURES

SPILL PROCEDURES: Prevent entry into sewers and waterways. Pick up free liquid for recycle or disposal. Absorb small amounts with an inert material.

WASTE DISPOSAL: Dispose according to current local, state and federal regulations. Materials may become hazardous waste through use. If permitted, incineration may be practical. Consider recycling.

SECTION 8 - SPECIAL PRECAUTIONS

SPECIAL PRECAUTIONS: Keep containers closed when not in use. Do not handle or store near high heat or flames. Avoid breathing oil mists, wash skin thoroughly with soap and water after handling.

SECTION 9 - TRANSPORTATION AND OSHA LABELING INFORMATION

TRANSPORTATION INCIDENT INFORMATION: For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents.

U.S. DOT HAZARDOUS MATERIALS SHIPPING DESCRIPTION: Not Regulated.

OSHA REQUIRED LABEL INFORMATION: In compliance with hazard and right-to-know requirements, where applicable OSHA Hazard Warnings may be found on the label, bill of lading or invoice accompanying this shipment.

The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of seller's knowledge, however, seller makes no warranty whatsoever, expressed, implied or of merchantability regarding the accuracy of such data or the results to be obtained from the use thereof, seller assumes no responsibility for injury to buyer or to third persons or for any damage to any property and buyer assumes all such risks.

N.A. = Not Applicable N.D. = Not Determine N.E. = Not Established

SAFETY DATA SHEET



High Temp Rinse Aide 325

Section 1. Identification

GHS product identifier : High Temp Rinse Aide 325
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 : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.
Hazard statements : No known significant effects or critical hazards.
Precautionary statements
Prevention : Not applicable.
Response : Not applicable.
Storage : Not applicable.
Disposal : Not applicable.
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 : 242

Ingredient name	%	CAS number
sodium 1,4-dihexyl sulphonatosuccinate	≥1 - <3	3006-15-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 3. Composition/information on ingredients

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. Get medical attention if irritation occurs. |
| Inhalation | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| Skin contact | : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| Ingestion | : Wash out mouth with water. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |

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. |
| Ingestion | : No known significant effects or critical hazards. |

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. |
| Specific treatments | : No specific treatment. |
| Protection of first-aiders | : No action shall be taken involving any personal risk or without suitable training. |

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.

- | | |
|---|---|
| Hazardous thermal decomposition products | : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
metal oxide/oxides |
|---|---|

Section 5. Fire-fighting measures

- 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. 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. 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. 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).
- 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. 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

None.

- 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. 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. < 1 hour (breakthrough time): disposable vinyl
- 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.
- Color** : Clear. Blue.
- Odor** : Odorless.
- Odor threshold** : Not available.
- pH** : 8.3 to 8.4
- 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.

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: 1.0068
Solubility	: Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Not available.
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	: 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
sodium 1,4-diethyl sulphonatosuccinate	LD50 Oral	Rat	1750 mg/kg	-

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.

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral.
Routes of entry not anticipated: Dermal, Inhalation.

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 : No known significant effects or critical hazards.

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

Route	ATE value
Oral	72916.7 mg/kg

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional 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.

Section 14. Transport information

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
Not determined.

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 : Not applicable.

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
sodium 1,4-dihexyl sulphonatosuccinate	≥1 - <3	No.	No.	No.	Yes.	No.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

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

Not listed.

Section 15. Regulatory information

International lists

National inventory

Australia	: Not determined.
Canada	: Not determined.
China	: Not determined.
Europe	: Not determined.
Japan	: Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	1
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

Classification	Justification
Not classified.	

History

Date of printing	: 4/1/2015.
Date of issue/Date of revision	: 4/1/2015.
Date of previous issue	: No previous validation.
Version	: 1

Section 16. Other information

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.

Product Name: **Highway Safety Marking Spheres with Coating**

Date Prepared: 03/05/07

Page: 1 of 4

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade names: Standard Highway Safety Marking Spheres with Coating
Premium Highway Safety Marking Spheres with Coating
VISIBEAD® Highway Safety Marking Spheres with Coating
VISIBEAD® Plus II Highway Safety Marking Spheres with Coating
Premix Highway Safety Marking Spheres with Coating
Intermix Highway Safety Marking Spheres with Coating

Product description: Spherical glass beads

Manufacturer: Potters Industries, Inc.
P. O. Box 840
Valley Forge, PA 19482 USA

Telephone: 610-651-4200

In case of emergency call: 610-651-4200

For transportation emergency
Call CHEMTREC: 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical and Common Name	CAS Registry Number	Wt. %	OSHA PEL	ACGIH TLV
Glass, oxide; Glass	65997-17-3	>99%	15mg/m ³ total dust, 5mg/m ³ respirable	10 mg/m ³ inhalable, 3 mg/m ³ respirable

3. HAZARDS IDENTIFICATION

Emergency Overview: Noncombustible clear white glass beads. Spilled material is extremely slippery.

Eye contact: Practically non-irritating to the eyes.

Skin contact: Slightly irritating to skin.

Inhalation: May cause irritation.

Ingestion: No known hazard.

Chronic hazards: No known chronic hazards. Not listed by NTP, IARC or OSHA as a carcinogen.

Physical hazards: Spilled material is extremely slippery.

4. FIRST AID MEASURES

Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops and

Product Name: **Highway Safety Marking Spheres with Coating**

Date Prepared: **03/05/07**

Page: **2 of 4**

Inhalation: persists. Wash clothing before reuse. Thoroughly clean shoes before reuse.
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: None required.

5. FIRE FIGHTING MEASURES

Flammable limits: This material is noncombustible.

Extinguishing Media: This material is compatible with all extinguishing media.

Hazards to fire-fighters: See Section 3 for information on hazards when this material is present in the area of a fire.

Fire-fighting equipment: The following protective equipment for fire fighters is recommended when this material is present in the area of a fire: rubber boots with slip-resistant soles.

6. ACCIDENTAL RELEASE MEASURES

Personal protection: Wear rubber boots with slip-resistant soles, and NIOSH-approved dust respirator where dust occurs. See section 8.

Environmental Hazards: Sinks in water. No known hazard to aquatic life.

Small spill cleanup: Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust. Use appropriate Personal Protective Equipment (PPE). See section 8.

Large spill cleanup: Keep unnecessary people away; isolate hazard area and deny entry. Do not walk through spilled material. Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust. Use appropriate Personal Protective Equipment (PPE). See section 8.

CERCLA RQ: There is no CERCLA Reportable Quantity for this material.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes and skin. Avoid breathing dust. Keep container closed. Use with adequate ventilation. Promptly clean up spills.

Storage: Keep containers closed. Store in clean metal, fiber or plastic containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Use with adequate ventilation. Keep containers closed. Eyewash station should be within direct access.

Respiratory protection: Use a NIOSH-approved dust respirator where dust occurs. Observe OSHA regulations for respirator use (29 C.F.R. §1910.134).

Skin protection: Wear body-covering clothing.

Eye protection: Wear safety glasses.

Product Name: **Highway Safety Marking Spheres with Coating**

Date Prepared: **03/05/07**

Page: **3 of 4**

9. PHYSICAL AND CHEMICAL PROPERTIES

<i>Appearance:</i>	Glass bead.
<i>Color:</i>	Clear white.
<i>Melting point:</i>	Approximately 730° C.
<i>Odor:</i>	Odorless.
<i>pH:</i>	Not applicable.
<i>Specific gravity:</i>	Approximately 2.5 g/cm³
<i>Solubility in water:</i>	Insoluble.

10. STABILITY AND REACTIVITY

<i>Stability:</i>	This material is stable under all conditions of use and storage.
<i>Conditions to avoid:</i>	None.
<i>Materials to avoid:</i>	Dissolves in hydrofluoric acid.
<i>Hazardous decomposition products:</i>	None known.

11. TOXICOLOGICAL INFORMATION

<i>Acute Data:</i>	When tested for primary irritation potential, a similar material was practically non-irritating to the eyes and was slightly irritating to the skin.. The acute oral toxicity of this product has not been tested. A similar material was nontoxic to rats at 5,000 mg/kg. All animals survived, gained weight and appeared active and healthy. There were no signs of gross toxicity, adverse pharmacologic effects or abnormal behavior. The acute inhalation toxicity of this product has not been tested.
<i>Subchronic Data:</i>	There are no known reports of subchronic toxicity of nonfibrous glass.
<i>Special Studies:</i>	There are no known reports of carcinogenicity of nonfibrous glass. Nonfibrous glass is not listed by IARC, NTP or OSHA as a carcinogen.

12. ECOLOGICAL INFORMATION

<i>Eco toxicity:</i>	There are no known reports of ecotoxicity of nonfibrous glass.
<i>Environmental Fate:</i>	This material is persistent but inert in aquatic systems. It will not bioconcentrate in animals.
<i>Physical/Chemical:</i>	Sinks in water. Insoluble in water.

13. DISPOSAL CONSIDERATIONS

<i>Classification:</i>	Disposed material is not a hazardous waste.
<i>Disposal Method:</i>	Dispose in accordance with federal, state and local regulations.

Product Name: **Highway Safety Marking Spheres with Coating**

Date Prepared: **03/05/07**

Page: **4 of 4**

14. TRANSPORT INFORMATION

DOT UN Status: **This material is not regulated as a hazardous material for transportation.**

15. REGULATORY INFORMATION

CERCLA: **No CERCLA Reportable Quantity has been established for this material.**
SARA TITLE III: **Not an Extremely Hazardous Substance under §302 Not a Toxic Chemical under §313.**
TSCA: **All ingredients of this material are listed on the TSCA inventory.**
FDA: **Glass is regarded by FDA as Generally Recognized As Safe (GRAS) for use in contact with food.**

16. OTHER INFORMATION

Prepared by: **John G. Blumberg**
Supersedes revision of: **12/21/05**

THE INFORMATION ON THIS SAFETY DATA SHEET IS BELIEVED TO BE ACCURATE AND IT IS THE BEST INFORMATION AVAILABLE TO POTTERS INDUSTRIES, INC. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONS FOR HANDLING A CHEMICAL BY A PERSON TRAINED IN CHEMICAL HANDLING. POTTERS INDUSTRIES, INC. MAKES NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED WITH RESPECT TO SUCH INFORMATION OR THE PRODUCT TO WHICH IT RELATES, AND WE ASSUME NO LIABILITY RESULTING FROM THE USE OR HANDLING OF THE PRODUCT TO WHICH THIS SAFETY DATA SHEET RELATES. USERS AND HANDLERS OF THIS PRODUCT SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION PROVIDED HEREIN FOR THEIR OWN PURPOSES.

1. Identification

Product identifier HIL-TEX+

Other means of identification

SDS number 556N-22G

Product code HIL00344

Recommended use Floor Seal

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 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	%
2-(2-ethoxyethoxy)ethanol		111-90-0	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.
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. Material can be slippery when wet. 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. 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

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).
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	Not normally needed.
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	White opaque liquid
Physical state	Liquid.
Form	Liquid.
Color	Milky white
Odor	Polymer odor
Odor threshold	Not available
pH	7.5 - 8.5
Melting point/freezing point	Not applicable / Not available
Initial boiling point and boiling range	> 200 °F (> 93.33 °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	17.5 mm Hg
Vapor density	0.7 AIR=1
Relative density	1.02
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	8.50 lb/gal
Percent volatile	83 - 85 %
VOC (Weight %)	0.42 % CARB VOC 2.42 % US EPA

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
HIL-TEX+		
Acute		
<i>Dermal</i>		
LD50	Rabbit	13596.1934 ml/kg estimated 2261.9048 g/kg estimated
<i>Inhalation</i>		
LC50	Mouse	20475.5039 mg/l, 10 Minutes estimated 9682.9971 mg/l, 1 Hours estimated 9538.9053 mg/l, 2 Hours estimated
	Rabbit	20317.002 mg/l, 1 Hours estimated
	Rat	21902.0176 mg/l, 2 Hours estimated 14697.4063 mg/l, 1 Hours estimated
<i>Oral</i>		
LD50	Guinea pig	11964.6494 g/kg estimated
	Mouse	371.7514 g/kg estimated
	Rat	74133.2344 mg/kg estimated 10061.1826 ml/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

* 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 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
HIL-TEX+			
Aquatic			
Crustacea	EC50	Daphnia	31124.9453 mg/l, 48 hours estimated
Fish	LC50	Fish	1433.7987 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

* 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

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.

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 or Exempt.
This product is not known to be 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)

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	11-25-2014
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.
-------------------	---

Spectrum Group, Division of United Industries Corp.
P.O. Box 142642
St. Louis, MO 63114-0642

Material Safety Data Sheet

Complies with OSHA's Hazard Communication Standard, 29 CFR 1910.1200

Hazardous Material Identification System-(HMIS)

HEALTH - 1

REACTIVITY - 0

FLAMMABILITY - 2

PERSONAL -
Rubber gloves

I Trade Name: Hot Shot Fogger₃

Product Type: Total Release Indoor Aerosol Insecticide

Product Item Number: 2013

Formula Code Number: 21-0223

EPA Registration Number

Manufacturer

Emergency Telephone No.

478-126-8845

Chemsico
8494 Chapin Industrial Drive
St. Louis, MO 63114

For Chemical Emergency: 1-800-633-2873
For Information: 1-800-332-5553
Prepared by: Charles A. Duckworth
Date Prepared: October 28, 2004

II Hazardous Ingredients/Identity Information

Chemical	%	OSHA PEL	ACGIH TLV
Mineral Spirits CAS #8012-95-1	5.0	100 ppm	100 ppm
Xylene CAS #1330-20-7	4.0	100 ppm	100 ppm (skin)
Permethrin CAS #52645-53-1	0.4	NA	NA
Tetramethrin CAS #7696-12-0	0.2	NA	NA
Hydrocarbon propellant 35.0	NE	NE	blend CAS # 75-
28-5/106-97-8/74-98/6			

III Physical and Chemical Characteristics

Appearance and Odor: Solid fan mist. No visible residue.
Pyrethroid odor.
Boiling Point: NA
Melting Point: NA
Vapor Pressure: 154 psig @ 54°C/130°F
Specific Gravity: 0.97 (H₂O=1)
Vapor Density: greater than 1 (Air=1)
% Volatile (by vol.): 98%
Solubility in Water: greater than 55%
Evaporation Rate: less than 1 (Butyl Acetate=1)

IV Fire and Explosion Hazard Data

Flash Point: 142°F (TCC)
Flame Extension: 0" (Level 1 Aerosol)
Flammable Limits: N/A
Autoignition Temp.: N/A
Fire Extinguishing Media: Water Fog, Carbon Dioxide, Dry Chemical
Decomposition Temp.: N/A
Special Fire-Fighting Procedures: Keep containers cool. Use equipment or shielding required protecting personnel against bursting, rupturing or venting containers.
Unusual Fire and Explosion Hazards: At elevated temperatures (over 54°C/130°F), containers may vent, rupture or burst. Also see Section V. Contains a highly flammable propellant. It may cause a fire or explosion if not used properly. Follow the "Directions for Use" very carefully.

V Reactivity Data

Stability: Stable
Polymerization: Will not occur
Conditions to Avoid: Temperatures over 130°F
Incompatible Materials: N/A
Hazardous Decomposition or Byproducts: Carbon dioxide, carbon monoxide

VI Health Hazard Data

Ingestion (Swallowing): May be harmful if swallowed. **First Aid:** Call a physician or Poison Control Center immediately. Do not induce vomiting because of aspiration hazard. Never induce vomiting or give anything by mouth to an unconscious person.
Skin Contact: Harmful if absorbed through skin. **First Aid:** Wash off with plenty of soap and water. Get medical attention if irritation persists.
Eye Contact: Avoid contact with eyes. **First Aid:** Flush eyes with plenty of water. Call a physician if irritation persists.
Inhalation Toxicity: Harmful if inhaled. **First Aid:** Move victim to fresh air. If not breathing, give artificial respiration, preferable mouth-to-mouth. Get medical attention.
Special Notes: None
Health Conditions Aggravated by Exposure: None Known
Ingredients listed by NTP, OSHA or IARC as Carcinogens or potential carcinogens: None

VII Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled:
Avoid breathing vapors. Remove ignition sources. Avoid skin contact with liquid.
Waste Disposal:
Do not puncture or incinerate containers. Give empty, leaking or full containers to a facility qualified to dispose of pressurized containers.
Handling & Storage Precautions:
Do not store where temperatures can exceed 54°C/130°F.

VIII Control Measures

Read and follow label directions. They are your best guide to using this product effectively and give necessary safety precautions to protect health.

IX Transportation Data

DOT: Consumer Commodity, Hazard Class ORM-D (Limited Quantity Exception)
IMDG: Aerosols (Maximum 1 Liter), Hazard Class 2, UN-1950, Packing Group III
IATA: Aerosols, Flammable, Containing Substances in Division
6.1, Packing Group III (Each Not Exceeding 1 Liter Capacity), Hazard Class 2.1, UN-1950, Packing Group III

The information and statements herein are believed to be reliable but are not to be construed as warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of

any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

Material Safety Data Sheet

HOT SHOT® (R-414B)

1 CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Product Name: HOT SHOT® (R-414B)
Product Use: Refrigerant
Manufacturer: ICOR International, Inc.
10640 E. 59th St.
Indianapolis, IN 46236

In Case Of Emergency Call: (24 Hours/Day, 7 Days/Week) CHEMTREC: 1-800-424-9300
Product Information Call: (Monday-Friday, 7:30 am-4:30 pm Eastern Time) ICOR: 1-800-497-6805

2 COMPOSITION/INFORMATION ON INGREDIENTS

Material:	CAS Number	Typical Wt. %
Chlorodifluoromethane (HCFC-22)	75-45-6	50%
1-Chloro-1,2,2,2-tetrafluoroethane (HCFC-124)	2837-89-0	39%
1-Chloro-1,1-difluoroethane (HCFC-142b)	75-68-3	9.5%
Isobutane (HC-600a)	75-28-5	1.5%

*Regulated as a Toxic Chemical under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

3 HAZARDS IDENTIFICATION

Emergency Overview

Overexposure may cause dizziness and loss of concentration. At higher levels, central nervous system depression and cardiac arrhythmia may result. Vapors displace air and may cause asphyxiation in confined spaces. Volatile liquid with faint sweetish odor.

Potential Health Effects:

EYE: Liquid may cause frostbite. Mist may irritate.

SKIN: Irritation can result from a defatting action on tissue. Liquid contact may cause frostbite.

INGESTION: Unlikely route of exposure. Should it result, discomfort in the gastrointestinal tract would occur.

INHALATION: Overexposure may cause dizziness and loss of concentration. At higher levels, central nervous system depression and cardiac arrhythmia may result.

CHRONIC (CANCER) INFORMATION: None of the components are designated as carcinogens by IARC, NTP, OSHA, or ACGIH.

TERATOLOGY (BIRTH DEFECT) INFORMATION: Not expected to be teratogenic.

REPRODUCTIVE INFORMATION: No hazard expected.

4 FIRST AID MEASURES

INHALATION: Remove to fresh air. If not breathing, give artificial respiration, administer oxygen and call a physician. DO NOT give epinephrine or similar drugs.

SKIN CONTACT: Warm the area gradually by flushing with plenty of water. Get medical attention if there is evidence of tissue damage.

EYE CONTACT: Irrigate eyes with running water for at least 15 minutes. Get medical attention.

INGESTION: Do not induce vomiting. Get medical attention.

Flammable Properties:

Flash Point: No flash point
Flammable Limits in Air (% by volume)
Autoignition: 635°C (1175°F)

Flammable Limits in Air (% by volume)

LEL: NONE (per ASTM E681)

UEL: NONE (per ASTM E681)

Fire and Explosion Hazards:

Cylinders may rupture under elevated temperatures and/or fire conditions. In concentrations above the recommended exposure limit, open flame will vary in size and color. Eliminate the flame or ignition source and ventilate to disperse the refrigerant vapors.

Hot Shot is not flammable at atmospheric pressure and temperatures below 100°C (212°F). Hot Shot should not exist with air/excess oxygen at elevated pressures and high temperatures. Hot Shot can become combustible with combinations of elevated temperatures, pressures, and oxygen, and an ignition source.

For example: Do not mix Hot Shot with air under pressure for leak detection purposes.

Extinguishing Media:

The choice of media depends on surrounding materials.

Fire Fighting Instructions:

Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment. Cool tank/container with water spray. Heat may rupture containers. Fight fire from distance. Contain and neutralize runoff prior to disposal.

Safeguards (Personnel):

Note: Review FIRE FIGHTING MEASURES and HANDLING sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.

Accidental Release Measures:

Remove or extinguish combustion sources. Evacuate enclosed spaces until gas is dispersed. Stop the release if possible. Ventilate area including low or enclosed spaces. Exhaust outdoors. Contain spill and collect remainder using absorbent material and place in drum approved for waste disposal or recovery.

Handling (Personnel):

Avoid breathing vapors. Avoid contact with skin or eyes. Use insulated or lined butyl gloves, face shield or goggles, and impervious clothing. Do not smoke.

Handling (Physical Aspects):

Insure adequate ventilation to keep exposure below recommended limits. Avoid contact with chlorine or other oxidizing agent.

See Fire and Explosion Data section.

Hot Shot R-414B should not be mixed with air above atmospheric pressure for leak testing or any other purpose.

Storage:

Do not store cylinders in direct sun or expose to heat above 120°F (52°C).

Engineering Controls:

Avoid contact with skin or eyes. Avoid breathing vapors. Use with sufficient ventilation to keep exposure below recommended exposure limit. Utilize mechanical ventilation in case of low or enclosed spaces, or release of large quantity.

Personal Protective Equipment:

EYE/FACE PROTECTION: Goggles or face shield.

RESPIRATORS: Use if exposure level is above PEL

PROTECTIVE CLOTHING: Impervious.

HYGIENE MEASURES: Do not drink, eat,
or smoke in work place.

Exposure Guidelines:

Long Term Exposure Limit**: 1000 ppm
(8 hr. TWA reference period)

Individual Component Applicable Exposure Limits:

Chlorodifluoromethane (HCFC-22):

AEL* (ICOR): 1000 ppm - 8 hr. TWA

PEL (OSHA): 1000 ppm - 8 hr. TWA

TLV (ACGIH): 1000 ppm - 8 hr. TWA

Chlorotetrafluoroethane (HCFC-124):

AEL* (ICOR): 1000 ppm - 8 hr. TWA

WEEL (AIHA): 1000 ppm - 8 hr. TWA

PEL (OSHA): none established

TLV (ACGIH): none established

Chlorodifluoroethane (HCFC-142b):

AEL* (ICOR): 1000 ppm - 8 hr. TWA

WEEL (AIHA): 1000 ppm - 8 hr. TWA

PEL (OSHA): none established

TLV (ACGIH): none established

Isobutane (HC-600a):

TLV (ACGIH): 1000 ppm, 8hr. TWA

DFG MAK: 1000 ppm; 2350 mg/m³

Peak limitation category

TWA (NIOSH): 800 ppm; 1900 mg/m³

Recommended TWA 10 hrs.

** As blended (ICOR Acceptable Exposure Limit)

* ICOR reviews industry standards and recommendations in consideration of acceptable exposure limitations. Where regulated exposure limits are lower than ICOR's recommended AEL, those limits shall supersede.

Physical Data:

Physical state:	Gas at ambient temperature	Density:	
Color:	Colorless	Liquid @ 1 atm.	86.95 lb/ft ³
Odor:	Slightly ethereal	Vapor @ 1 atm.	.32255 lb/ft ³
Solubility in Water:	Not determined	Vapor Pressure:	
Boiling Point:	Dew @ 1 atm. -11.8°F	@ 70°F	78.9 psia
	Bubble @ 1 atm. -27.1°F	@ 130°F	195.4 psia
Freezing Point:	Not determined	pH:	neutral
Molecular Weight:	101.59 g/mol	% Volatiles:	100

Chemical stability: Material is stable. However, avoid high temperatures and open flames.

Decomposition: Decompositions are hazardous. High temperatures or flames will cause decomposition by products forming halogens, halogen acids and possible carbonyl halides.

Polymerization: Will not occur

Other Hazards: Cylinders of used product may contain oil as well as refrigerant. A leak or venting during a fire will produce a cloud of oil mist that is flammable.

Immediate (Acute) Effects: components

HCFC-22:

LC₅₀: 4 hr. (rat) >250,000 ppm

Cardiac Sensitivity Threshold (dog) >50,000 ppm

HCFC-142b:

LC₅₀: 4 hr. (rat) >128,000 ppm

Cardiac Sensitivity Threshold NOEL 50,000 ppm

As blended: Untested

HFC-142b:

LC₅₀: 4 hr. (rat) >800,000 ppm

Cardiac Sensitivity Threshold (dog) 75,000 ppm

HC-600a:

LC₅₀: 2 hr. (mouse) 520,000 ppm

Degradability (BOD): Hot Shot is a gas at room temperature. It is unlikely to remain in water.

Octanol Water Partition Coefficient: As blended N/A

Components: R-22 - unknown
R-142b - unknown

R-124 - $\text{Log } P_{\text{ow}} = 1.94$
R-600a - $\text{Log } P_{\text{ow}} = 2.8$

Disposal must comply with federal, state, and local regulations. Hot Shot is subject to Clean Air Act Regulations Section 608 in 40 CFR Part 82 concerning refrigerant recycling.

RCRA: Not a hazardous waste

Alteration to the product such as mixing with other material may change the characteristics of the material and alter the RCRA classification and the proper disposal method.

DOT/IMO/IATA

Proper shipping Name: Liquefied Gas N.O.S.
(Chlorodifluoromethane,
Chlorodifluoroethane)

Labeling: 2-NonFlammable Gas
Cargo Aircraft: Packing instructions –
200 quantity: 150 kg
Passenger Aircraft: Packing instructions –
200 quantity: 75kg

Hazard Class: 2.2
UN Number: 3163

Toxic Substance Control Act (TSCA)

Components: Listed on Inventory

SARA Title III/CERCLA: Components:

Reportable Quantities (RQs) No components listed
Threshold Planning Quantities (TPQs) No components listed

Section 311 Hazard Class: IMMEDIATE PRESSURE
Section 313 Toxic Chemicals: No components listed

Additional Regulatory Information:

U. S. Clean Air Act - 40 CFR Part 82

Foreign Inventory Status: Components:

EU-EINECS #2008719 – HCFC-22
#2008918 – HCFC-142b
#2206296 – HCFC-124
#2008572 – HC-600a

WHMIS Classification (Canada): This product has been evaluated with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

Other Information:

HMIS Classification: Health – 1, Flammability – 1,
Reactivity – 0
NFPA Classification: Health – 2, Flammability – 1,
Reactivity – 0

OSHA Regulations for compressed gases:
29CFR 1910.11
DOT Classification per 49 CFR 172.101
ANSI/ASHRAE: Standard 34 Safety Designation – A1

DISCLAIMER

The information contained in this MSDS pertains only to the specific material designated herein and does not relate to use in combination with other materials. This information is offered in good faith. No warranty, either expressed or implied, as to suitability to application is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be reliable. Each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate. These recommendations are not intended to supersede state or local safety codes and procedures. The information contained herein is subject to revision without notification as additional knowledge and experience is gained.

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: HURRICANE Intensive Stone Cleaner
Supplier's Name: National Chemical Laboratories of PA, Inc.
Supplier's Address: 401 N. 10th Street · Philadelphia PA 19123
HMIS Hazard Code: Health: 2 Flammability: 0 Reactivity: 0 Other: 0
Chemical Family: Blended Cleaner
D.O.T. Shipping Name: CORROSIVE LIQUID n.o.s. (contains potassium hydroxide)
Product #: 2510
Emergency Phone #: CHEM-TEL (800) 255-3924
Chemical Name: N/A Proprietary Blend
Formula: N.A. Blended Product
Hazard Class: 8 **D.O.T. ID#:** UN1760

SECTION 2 - HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NUMBER	% Concentration Range	Hazard Ratings (TLV/PEL)
2-Butoxy Ethanol	111-76-2	PROP.	25 ppm

SECTION 3 - PHYSICAL DATA

Boiling Point (°F): 212
Vapor Pressure: = To Water
Vapor Density: = To Water
Solubility in Water: Complete
Appearance: Clear, Thin, Red Liquid
Odor: Buttery Citrus
Specific Gravity: 1.040
Evaporation Rate: = To Water

SECTION 4 - FIRE AND EXPLOSION DATA

Flash Point (°F): None to boiling (TOC)
Flammable Limits: Not Est.
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. Harmful if swallowed. May cause severe mucosal damage and gastric distress. May cause systemic intoxication.
Emergency & First Aid Procedures: **For Eyes:** Flush eyes with water for at least fifteen minutes. If irritation persists seek medical attention. **For Skin:** Wash thoroughly with water and apply emollient creme. If irritation persists seek medical attention. **If ingested:** Do not induce vomiting. Give milk, egg white, gelatin or water. Seek immediate medical attention. Never give anything by mouth to an unconscious person.
Conditions Aggravated by Exposure: May aggravate existing dermatitis and irritate sensitive skin.

Listed Carcinogen, Mutagen, Teratogen (Ingredient, Source, Amount): None

SECTION 6 - REACTIVITY DATA

Stability: Stable
Conditions to Avoid: None
Incompatibility: 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.

SECTION 8 - SPECIAL PROTECTION INFORMATION

Respiratory Protection: Generally not required
Ventilation: Local
Protective Gloves: Rubber or Latex
Eye Protection: Goggles or safety glasses with side shields.
Other Protective Equipment: Rubber boots should be worn if working in standing solution.

SECTION 9 - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store between 40°F and 120°F
Other Precautions: Remove contaminated clothing. Wash all contaminated clothing thoroughly before reuse. Keep out of reach of children. For professional use 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 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 be covered by this MSDS. The user is responsible for full compliance.

Date Prepared – 10/05/00 By: G.C.

S.A.M.

LOW TEMPERATURE

HYDRAULIC FLUID

MATERIAL SAFETY DATA SHEET

Material Safety Data Sheet

SLiPS Lubricants

Trade Name: **POLAR ICE HYDRAULIC OIL**

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer **SLiPS Lubricants** MSDS Number **N/A**
Address **146 Erie Industrial Park** CAS Number **MIXTURE**
Port Clinton, OH 43452
Phone Number **419-635-2100** Date Prepared **10/01/2005**
Emergency # **419-543-1356** Prepared By **STANLEY SENSMEIER**
Product Chemical Name **PETROLEUM OIL** Intended Use **Hydraulic Oil**
DATA CONTAINED HEREIN IS PURSUANT TO THE ANSI Z400.1 STANDARD

SECTION II - COMPOSITION AND INFORMATION ON INGREDIENTS

COMPONENTS CHEMICAL NAME	%V	OSHA PEL	ACGIH TLV	LIMITS
Naphthenic Petroleum Oil	80-950%	N/A	N/A	N/A
Acrylic Polymer	3-10%	N/A	N/A	N/A
Proprietary Additives	1-3%	N/A	N/A	N/A

SECTION 111 - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point **500*** Specific Gravity (H₂O=1) **0.88**
Vapor Pressure **0.0 mm Hg at 70°F** Melting Point **N/A**
Vapor Density (air =1) **>10** Evaporation Rate (Butyl Acetate=1) **0.001**
Solubility in Water **INSOLUBLE** Water Reactive **N/A**
PH **N/A** Appearance & Odor **AMBER or BLUE, PETROLEUM ODOR**
VOC Content **N/A** Density **7.3 lb.**

SECTION IV - HAZARDOUS IDENTIFICATION, FIRST AID MEASURES & EXPOSURE CONTROL

	EFFECT OF EXPOSURE	FIRST AID MEASURES	SPECIAL PROTECTION
EYE CONTACT	Direct Contact with material or exposure to vapors may cause irritation.	For direct contact, flush eyes with water, holding eyelids apart for 15 minutes. Get medical attention if irritation or pain persists.	Wear eye protection.
INHALATION	High concentrations of vapor or mist may irritate the respiratory tract.	Remove to fresh air, if not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing difficulties persists.	Use NOISH/MSHA approved respiratory protective equipment when concentration of vapor or mist exceeds applicable limits.
INGESTION	May cause throat irritation, nausea, vomiting and diarrhea. Breathing material into the lungs during ingestion or vomiting may cause lung injury.	Immediately get medical attention. DO NOT induce vomiting. If spontaneous vomiting occurs, keep head below hips to avoid breathing material into lungs.	
SKIN ABSORPTION	Direct contact with material or exposure to vapors is not expected to cause irritation. A single, prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts.	Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain persists.	Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking, or smoking.

SECTION V - STABILITY AND REACTION

Stability: X Stable Unstable

Incompatibility (material to avoid): Avoid oxidizing agents.

Hazardous Decomposition Products: None under normal temperatures and pressures.

Hazardous Polymerization: X Will not occur May occur

SECTION IV - ACCIDENTAL RELEASE AND DISPOSAL MEASURES

Steps to be taken in case material is released or spilled:

Contain spill and recover free liquid by absorbing with a suitable material. Rinse spill site with clean water.

Waste disposal method:

Disposal of absorbent material in accordance with federal, state, and local regulations.

SECTION VII - HANDLING AND STORAGE

Precautions to be taken in handling and storing:

Store away from strong oxidizers, strong acids and alkalis. Keep container closed when not dispensing. Keep from freezing. Always wear protective equipment.

Other Precautions:

Good personal hygiene is important. Keep area clean and wash hands before eating.

SECTION VIII- FIRE FIGHTING MEASURES

Flash Point	330°F			
	Flammability Limits in	LEL:	UEL:	
Method Used	COC	Air % by Vol.	1%	10%
Extinguisher Media	Carbon Dioxide, dry chemical, regular foam or water spray			
HMIS Rating	Health 0	Fire 1	Reactivity 0	Specific Hazard 0
Special fire Fighting Procedures	Keep storage containers cool with water spray. Positive-pressure self contained breathing apparatus (SCBA) and structural firefighters protective clothing may provide limited protection.			

SECTION IX - TOXICOLOGICAL INFORMATION

Clinical test data: **N/A**

Carcinogens: **N/A**

SECTION X - ECOLOGICAL INFORMATION

Ecological Impact data: **N/A**

Ecotoxicology data: **N/A**

SECTION XI - TRANSPORTATION

DOT Labeling Information	Hazard Class:	WHMIS
N/A	N/A	Classification:
Proper Shipping Name:	Hazard	Packing
N/A	Identification	Group:
	Number: N/A	

SECTION XII - REGULATION

Categories or Components under SARA Title III:

Components Listed in the TSCA Inventory:

RCRA Hazardous Waste Codes:

CERCLA Reportable Quantity:

Section 1 Chemical Product and Company Information



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product	HYDROCHLORIC ACID, 0.1 MOLAR (0.1 NORMAL) SOLUTION
---------	--

Synonyms	Muriatic Acid, Water Solution / Hydrogen Chloride, Water Solution
----------	---

Section 2 Hazards Identification

The dilution of this chemical has not been classified according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: WARNING

Pictograms: None required

Target organs: Respiratory system, skin, eyes, lungs.

GHS Classification:

Skin irritant (Category 3)

Eye irritant (Category 2B)

GHS Label information:

Hazard statement(s):

H316: Causes mild skin irritation.

H320: Causes eye irritation.

Precautionary statement(s):

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.

P332+P313: If skin irritation occurs: Get medical attention.

P337+P313: If eye irritation persists: Get medical attention.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Water	7732-18-5	99.68%	231-791-2
Hydrochloric acid	7647-01-0	0.314%	231-595-7

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. 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.

INHALATION: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE IRRITATION. 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 ABSORPTION: MAY CAUSE IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Contact with metals produce hydrogen, which is flammable and may produce explosive mixtures with air.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Hydrogen chloride	STEL: C 2 ppm / C 2.98 mg/m ³	STEL: C 5 ppm / C 7 mg/m ³	STEL: C 5 ppm / C 7 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Clear, colorless liquid.

Odor: No odor.

Odor threshold: No data available

pH: No data available

Melting / Freezing point: ~ 0°C (~ 32°F) [water]

Boiling point: ~ 100°C (212°F) [water]

Flash point: Not flammable.

Evaporation rate (= 1): < 1

Flammability (solid/gas): No data available

Explosion limits: Upper/Lower: No data available

Vapor pressure (mm Hg): 14 [water]

Vapor density (Air = 1): 0.7 [water]

Relative density (Specific gravity): 1.0 [water]

Solubility(ies): Complete.

Partition coefficient: (n-octanol / water): No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Molecular formula: Mixture.

Molecular weight: Mixture.

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Containers may burst when heated. Avoid contact with water.

Incompatible materials: Metals, bases, active metals, alkali metals, oxidizing agents, hydroxides, amines, carbonates, cyanides, sulfides, sulfites, formaldehyde.

Hazardous decomposition products: Hydrogen chloride gas.

Section 11 Toxicological Information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available at this dilution.

Serious eye damage/irritation: Data not available at this dilution.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.

IARC: Group 3: Not classifiable as to its carcinogenicity to humans.

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.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available at this dilution.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available.

Exercise appropriate procedures to minimize potential hazards.

Inhalation: May be harmful if inhaled. Material may cause irritation to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

Skin: May cause irritation and/or burns.

Eyes: May cause irritation and/or burns.

Signs and symptoms of exposure: Data not available at this dilution.

Additional information: RTECS #: MW4025000 [Hydrochloric acid]

Section 12 Ecological Information

Toxicity to fish: LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric acid)

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2012 ERG Guide # Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Hydrochloric acid, 0.1M	Listed	Not listed	Not listed	Not listed	Not listed	Not listed

Section 16 Additional Information

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. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure.

Section 1 L'information de produit chimique et de compagnie



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Numéros De Téléphone
De Secours D'Heure (800) 424-9300
Pour l'usage de laboratoire seulement.
Pas pour l'usage de drogue, de nourriture
ou de ménage.

Produit	ACIDE CHLORHYDRIQUE, SOLUTION DE 0,1 MOLLAIRE (0,1 NORMALE)
Synonymes	Acide muriatique, solution de l'eau ; Chlorure d'hydrogène, solution de l'eau

Section 2 Identification De Risques

La dilution de ce produit chimique n'a pas été classés selon le Système général harmonisé (SGH) de classification et d'étiquetage des produits chimiques.

Mention d'avertissement: AVERTISSEMENT

Pictogrammes: Aucune requise

Les organes cibles: Le système respiratoire, la peau, les yeux et les poumons.

Classification par le GHS:

Skin irritant (Category 3)

Eye irritant (Category 2B)

Renseignements sur l'étiquette GHS:

Mention de danger(s):

H316: Provoque une légère irritation cutanée.

H320: Provoque une irritation des yeux.

Déclarations de précaution(s):

P264: Se laver les mains après avoir manipulé.

P305+P351+P338: SI DANS LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles cornéennes, si présentes et facile à faire. Continuer à rincer.

P332+P313: En cas d'irritation cutanée: Obtenir des soins médicaux.

P337+P313: Si l'irritation oculaire persiste: Obtenir des soins médicaux.

Section 3 Composition / Information Sur Des Ingrédients

Nommé Chimique	# CAS	%	EINECS
L'eau	7732-18-5	99,68%	231-791-2
Acide chlorhydrique	7647-01-0	0,314%	231-595-7

Section 4 Mesures De Premiers Soins

INGESTION: PEUT ETRE NOCIF EN CAS D'INGESTION. Appeler un médecin ou un centre antipoison immédiatement. Provoquer le vomissement seulement si elle est informée par le personnel compétent médicaux. Ne jamais rien donner par la bouche à une personne inconsciente.

INHALATION: PEUT ETRE NOCIF EN CAS D'INHALATION. Sortir au grand air. Si elle ne respire pas, pratiquer la respiration artificielle. Si la respiration est difficile, donner de l'oxygène. Obtenir des soins médicaux.

CONTACT AVEC LES YEUX: PEUT CAUSER UNE IRRITATION. Vérifier et enlever les lentilles de contact. Rincer abondamment à l'eau pendant au moins 15 minutes, en soulevant les paupières inférieures et supérieures de temps en temps. Obtenez une attention médicale immédiate.

ABSORPTION PAR LA PEAU: PEUT CAUSER UNE IRRITATION. Enlever les vêtements contaminés. Rincer soigneusement avec du savon doux et d'eau. En cas d'irritation, consulter un médecin.

Section 5 Mesures De Lutte Contre l'Incendie

Moyens d'extinction: Dioxyde de carbone, produit chimique sec, du sable sec, mousse anti-alcool.

Actions de protection pour les sapeurs-pompiers: En cas d'incendie, porter un appareil respiratoire NIOSH / MSHA approuvé autonome et un équipement complet de protection. Utiliser un jet d'eau pour maintenir incendie refroidir les conteneurs exposés.

Dangers spécifiques: En cas d'incendie, des gaz irritants et très toxiques peuvent être générés par la décomposition thermique ou la combustion. Contact avec des métaux produire de l'hydrogène, qui est inflammable et peut produire des mélanges explosifs avec l'air.

Section 6 Mesures De Déchargement Accidentel

Précautions personnelles: Évacuer le personnel vers la zone sûre. Utiliser un équipement de protection personnelle comme indiqué dans la Section 8. Assurer une ventilation adéquate.

Précautions environnementales: Éviter tout ruissellement vers les égouts pluviaux et les fossés qui aboutissent aux voies navigables.

Confinement et de nettoyage: Absorber avec un matériau inerte, balayer à sec ou sous vide et placer dans un récipient approprié pour une élimination appropriée. Laver la zone de déversement avec du savon et de l'eau.

Section 7 Manipulation Et Stockage

Précautions pour la manutention en toute sécurité: Lire l'étiquette sur le contenant avant d'utiliser. Ne pas porter de lentilles cornéennes lorsque vous travaillez avec des produits chimiques. Tenir hors de portée des enfants. Éviter tout contact avec les yeux, la peau et les vêtements. Ne pas inhaler les vapeurs, les embruns ou le brouillard. Utiliser avec une ventilation adéquate. Éviter l'ingestion. Bien se laver après la manipulation. Retirer et laver les vêtements avant de les réutiliser.

Conditions de stockage: Stocker dans un endroit frais et bien aéré, loin des substances incompatibles.

Section 8 Commandes D'Exposition / Protection Personnelle

Limites d'exposition:	Nommé Chimique	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Acide chlorhydrique	STEL: C 2 ppm / C 2.98 mg/m ³	STEL: C 5 ppm / C 7 mg/m ³	STEL: C 5 ppm / C 7 mg/m ³

Contrôles d'ingénierie: Les installations d'entreposage ou d'utilisation de ce matériel doit être équipé d'une douche oculaire et une douche de sécurité et le matériel d'extinction d'incendie. Le personnel doit porter des lunettes de sécurité, des lunettes, ou un écran facial, une blouse de laboratoire ou tablier, des gants protecteurs appropriés. Utiliser une ventilation adéquate pour maintenir les concentrations atmosphériques faible.

Protection respiratoire: Aucune ne devrait être nécessaire dans la gestion normale de laboratoire à température ambiante. Si les conditions brumeux prévaloir, travailler dans la hotte ou de porter un masque respiratoire approuvé NIOSH / MSHA.

Section 9 Propriétés Physiques Et Chimiques

Apparence: Liquide clair, incolore.

Odeur: Aucune odeur.

Seuil de l'odeur: Pas de données disponibles

pH: Pas de données disponibles

Point de fusion / congélation: ~ 0°C (~ 32°F) [l'eau]

Point d'ébullition: ~ 100°C (212°F) [l'eau]

Point d'éclair: Ininflammable.

Taux d'évaporation (= 1): < 1

Inflammabilité (solide / gaz): Pas de données disponibles

Limites d'explosivité: Max/Bas: Pas de données disponibles

Pression de vapeur (mm Hg): 14 [l'eau]

Densité de vapeur (Air = 1): 0.7 [l'eau]

Densité relative (gravité spécifique): 1.0 [l'eau]

Solubilité (s): Complet.

Coefficient de partage: (n-octanol / eau): Pas de données disponibles

Auto-inflammation: Pas de données disponibles

Température de décomposition: Pas de données disponibles

Viscosité: Pas de données disponibles

Formule moléculaire: Mélange.

Poids moléculaire: Mélange.

Section 10 Stabilité Et Réactivité

Stabilité chimique: Stable

Polymérisation dangereuse: N'aura pas lieu.

Conditions à éviter: Les récipients peuvent éclater une fois de chauffage. Évitez le contact avec de l'eau.

Matières incompatibles: Métaux, bases, métaux actifs, métaux d'alcali, oxydants, hydroxydes, amines, carbonates, cyanures, sulfures, sulfites, formaldéhyde.

Produits dangereux de décomposition: Chlorure d'hydrogène gazeux.

Section 11 L'Information Toxicologique

Toxicité aiguë: Données non disponibles

La corrosion de la peau et l'irritation: Données non disponibles à cette dilution.

Des lésions oculaires graves / irritation: Données non disponibles à cette dilution.

Respiratoire ou sensibilisation de la peau: Données non disponibles

Mutagenicité des cellules germinales: Données non disponibles

Cancérogène: Données non disponibles

NTP: Aucun composant de ce produit présent à des niveaux supérieurs ou égaux à 0,1% n'a été identifié comme cancérogène ni comme cancérogène possible par le NTP.

IARC: Group 3: L'agent est inclassable quant à sa cancérogénicité pour l'homme.

OSHA: Aucun composant de ce produit présent à des niveaux supérieurs ou égaux à 0,1% n'a été identifié comme cancérogène ni comme cancérogène possible par le OSHA.

Reproductive toxicity: Données non disponibles

STOT-exposition unique: Données non disponibles à cette dilution.

STOT-une exposition répétée: Données non disponibles

Risque d'aspiration: Données non disponibles

Effets d'une surexposition: Au meilleur de notre connaissance les propriétés chimiques, physiques et toxicologiques n'ont pas été à fond étudiées. Les données spécifiques ne sont pas disponibles. Procédures appropriées d'exercice pour réduire au minimum des risques.

Inhalation: Peut être nocif en cas d'inhalation. Le matériel peut provoquer une irritation des tissus des muqueuses et des voies respiratoires supérieures.

Ingestion: Peut être nocif en cas d'ingestion.

Peau: Peut causer une irritation et / ou des brûlures.

Yeux: Peut causer une irritation et / ou des brûlures.

Les signes et les symptômes de l'exposition: Données non disponibles à cette dilution.

Informations complémentaires: RTECS #: MW4025000 [Acide chlorhydrique]

Section 12 L'Information Écologique

Toxicité pour les poissons: LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric acid)

Toxicité pour les daphnies et autres invertébrés aquatiques: Pas de données disponible

Toxicité pour les algues: Pas de données disponible

Persistance et dégradabilité: Pas de données disponible

Potentiel de bioaccumulation: Pas de données disponible

Mobilité dans le sol: Pas de données disponibles

Évaluation PBT et vPvB: Pas de données disponibles

Autres effets indésirables: Un danger pour l'environnement ne peut pas être exclu dans l'éventualité d'une manipulation ou d'élimination.

Section 13 Considérations De Disposition

Ces lignes directrices sont destinées à l'élimination de la disposition d'un catalogue de taille seules les quantités. Les règlements fédéraux peuvent s'appliquer aux contenants vides. Des réglementations nationales et / ou local peut être différent. Éliminer conformément à toutes les réglementations locales, provinciales et fédérales ou d'un contrat avec une agence élimination des produits chimiques sous licence.

Section 14 L'Information De Transport

Numéro UN / NA: Non applicable

Nom d'expédition: Non réglé

Classe de danger: Non applicable

Groupe d'emballage: Non applicable

Quantité à déclarer: Non

Polluant marin: Non

Exceptions: Non applicable

2012 ERG Guide #: Non applicable

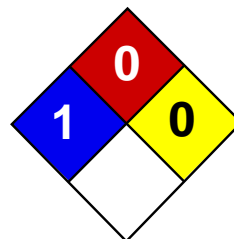
Section 15 L'Information De Normalisation

Un produit chimique est considéré comme inscrit si le numéro CAS pour la forme anhydre est sur la liste d'inventaire.

Composant	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	Classification SIMDUT
Acide chlorhydrique, 0.1M	Listed	Non listed	Non listed	Non listed	Non listed	Non listed

Section 16 L'Information Additionnelle

Les informations contenues dans ce document sont fournis sans garantie d'aucune sorte. Les employeurs devraient considérer cette information seulement comme complément à d'autres informations recueillies par eux et doivent prendre des décisions indépendantes de la pertinence et l'exhaustivité de l'information de toutes les sources afin d'assurer une utilisation correcte de ces matériaux et de la sécurité et la santé des employés. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure.



Health	2
Fire	0
Reactivity	0
Personal Protection	J

Material Safety Data Sheet

Hydrochloric Acid, 0.1N MSDS

Section 1: Chemical Product and Company Identification

Product Name: Hydrochloric Acid, 0.1N

Catalog Codes: SLH2380

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Hydrochloric acid; Water

CI#: Not applicable.

Synonym: Hydrochloric Acid, 0.1 N Aqueous Solution

Chemical Name: Hydrochloric Acid

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
Hydrogen chloride	7647-01-0	0.364
Water	7732-18-5	99.64

Toxicological Data on Ingredients: Hydrogen chloride: GAS (LC50): Acute: 4701 ppm 0.5 hours [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of eye contact (irritant). Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Hydrogen chloride]. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, , teeth. 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 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 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: 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: Non-explosive in presence of open flames and sparks, of shocks.

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:

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. 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. Neutralize the residue with a dilute solution of sodium carbonate. 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 breathe gas/fumes/ vapor/spray. Never add water to this product. 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:

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. Gloves.

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:

Hydrogen chloride STEL: 7.5 (mg/m³) from ACGIH (TLV) [United States] STEL: 5 (ppm) from ACGIH (TLV) [United States] CEIL: 5 (ppm) from NIOSH CEIL: 7.5 (mg/m³) from NIOSH CEIL: 5 (ppm) from OSHA (PEL) [United States] CEIL: 7 (mg/m³) from OSHA (PEL) [United States] 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: Clear Colorless.

pH (1% soln/water): Acidic.

Boiling Point: The lowest known value is 100°C (212°F) (Water).

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: The only known value is 1 (Water = 1) (Water).

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, diethyl ether.

Solubility:

Easily soluble in cold water. Soluble in hot water, diethyl ether.

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 alkalis.

Corrosivity: Slightly corrosive in presence of glass.

Special Remarks on Reactivity:

Reacts violently (moderate reaction with heat of evolution) with water especially when water is added to the product. Isolate hydrogen chloride from heat, direct, alkalis (reacts vigorously), organic materials, and oxidizers (especially nitric acid and chlorates), amines, copper and alloys (e.g. brass), hydroxides, zinc (galvanized materials). Hydrogen chloride causes aldehydes and epoxides to violently polymerize. It reacts with oxidizers releasing chlorine gas. (Hydrogen chloride)

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:

Hydrochloric Acid: Acute oral toxicity (LD50): 900 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 1108 ppm, 1 hours [Mouse]. Acute toxicity of the vapor (LC50): 3124 ppm, 1 hours [Rat].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Hydrogen chloride]. Contains material which may cause damage to the following organs: kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, , teeth.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals:

Hydrochloric Acid Lowest Published Lethal Doses (LDL/LCL) LDL [Man] -Route: Oral; 2857 ug/kg LCL [Human] - Route: Inhalation; Dose: 1300 ppm/30M LCL [Rabbit] - Route: Inhalation; Dose: 4413 ppm/30M

Special Remarks on Chronic Effects on Humans:

May cause adverse reproductive effects (fetotoxicity). May affect genetic material. (Hydrochloric Acid)

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: May cause slight skin irritation. Eyes: Causes eye irritation. Inhalation: May cause respiratory tract irritation. It is expected to be a low hazard for usual industrial handling. Ingestion: Ingestion of large doses may cause gastrointestinal tract disturbances with nausea, vomiting and diarrhea. May affect behavior, the cardiovascular system, and urinary system (kidneys). Chronic Potential Health Effects: Prolonged or repeated inhalation or ingestion may affect liver, respiratory tract (chronic bronchitis), teeth (yellowing of teeth and erosion of tooth enamel), kidneys, and behavior. Prolonged or repeated skin contact may cause dermatitis.

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:

Connecticut hazardous material survey.: Hydrochloric acid Illinois toxic substances disclosure to employee act: Hydrochloric acid Illinois chemical safety act: Hydrochloric acid New York release reporting list: Hydrochloric acid Rhode Island RTK hazardous substances: Hydrochloric acid Pennsylvania RTK: Hydrochloric acid Minnesota: Hydrochloric acid Massachusetts RTK: Hydrochloric acid Massachusetts spill list: Hydrochloric acid New Jersey: Hydrochloric acid New Jersey spill list: Hydrochloric acid Louisiana RTK reporting list: Hydrochloric acid Louisiana spill reporting: Hydrochloric acid TSCA 8(b) inventory: Hydrochloric acid; Water TSCA 4(a) proposed test rules: Hydrochloric acid SARA 302/304/311/312 extremely hazardous substances: Hydrochloric acid CERCLA: Hazardous substances.: Hydrochloric acid: 5000 lbs. (2268 kg);

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

Other Classifications:

WHMIS (Canada): CLASS E: Corrosive liquid.

DSCL (EEC):

Not available Not available

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: j

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

Health: 1

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Not applicable. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

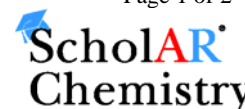
Created: 10/10/2005 10:26 AM

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.

MSDS # 332.00

Hydrochloric Acid Solution, 3.0M



Section 1: Product and Company Identification

Hydrochloric Acid 3.0M

Synonyms/General Names: Muriatic Acid; Hydrochloric Acid Solution, 3N**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 liquid; pungent odor.***HMIS (0 to 4)**

Health	2
Fire Hazard	0
Reactivity	1

WARNING! Strongly corrosive to body tissue and moderately toxic by ingestion.

Target organs: Respiratory system, eyes, skin, lungs.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 3: Composition / Information on Ingredients

Hydrochloric Acid, 37% (7647-01-0), 28%.

Water (7732-18-5), 72%.

Section 4: First Aid Measures

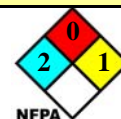
*Always seek professional medical attention after first aid measures are provided.***Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.**Ingestion:** 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.

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 Hydrochloric Acid: OSHA PEL: 5 ppm ceiling and ACGIH TLV: 2 ppm ceiling, STEL: N/A.

Section 9: Physical and Chemical Properties

Molecular formula	HCl.	Appearance	Clear, colorless liquid.
Molecular weight	36.46.	Odor	Pungent odor.
Specific Gravity	1.03 g/mL @ 20°C.	Odor Threshold	N/A.
Vapor Density (air=1)	0.7.	Solubility	Completely soluble in water.
Melting Point	0°C.	Evaporation rate	< 1 (Butyl acetate = 1).
Boiling Point/Range	100°C.	Partition Coefficient	N/A. (log P_{ow}).
Vapor Pressure (20°C)	14.	pH	1, very acid (corrosive).
Flash Point:	N/A.	LEL	N/A.
Autoignition Temp.:	N/A.	UEL	N/A.

Section 10: Stability and Reactivity

Avoid heat and ignition sources.

Stability: Stable under normal conditions of use and storage.

Incompatibility: Alkalis, strong bases, metals, amines, carbonates, metal oxides, cyanides, sulfides, sulfites and formaldehyde.

Shelf life: Indefinite, store in a cool, environment.

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

Hydrochloric Acid: LD50 [oral, rabbit]; 900 mg/kg; LC50 [rat]; 3124 ppm (1 hour); 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): LC50 - 282 mg/l - 96 h - *Gambusia affinis* (Mosquito fish)

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:	Hydrochloric Acid.	Canada TDG:	Hydrochloric Acid.
DOT Hazard Class:	8, pg III .	Hazard Class:	8, pg III .
Identification Number:	UN1789 .	UN Number:	UN1789 .

Section 15: Regulatory Information

EINECS: Listed (231-595-7).

WHMIS Canada: D1A, E: Very Toxic Material, Corrosive Material.

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.

© 2008, Scholar Chemistry. All Rights Reserved.

1/23/2009

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 395.00

Revision Date: August 12, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Hydrochloric Acid, 6M - 12M (Concentrated)

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 and eye damage, corrosion or irritation (Category 1). Causes severe skin and eye burns and damage (H314+H318). Do not breathe mist, vapors or spray (P260).

Hazard class: Acute toxicity, oral and inhalation (Category 4). Harmful if swallowed or inhaled (H332+H302). Avoid breathing mist, vapors or spray (P261). Do not eat, drink or smoke when using this product (P270).

Hazard class: Corrosive to metals (Category 1). May be corrosive to metals (H290).

Industrial exposure to hydrochloric acid vapors and mists is listed as a known human carcinogen by IARC (IARC-1).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Hydrochloric acid	7647-01-0	HCl	36.46	20-38%
Water	7732-18-5	H ₂ O	18.00	62-80%

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).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

When heated to decomposition, emits toxic fumes of hydrogen chloride.

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

Ventilate area and 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. Absorb spills to prevent material damage (P390). See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #9. Store with acids, except nitric acid.

Store in a dedicated acid cabinet and away from any source of water; if an acid cabinet is not available, store in Flinn Saf-Cube™. Keep only in original container (P234). 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: (as concentrated HCl) Ceiling 5 ppm (OSHA); Ceiling 2 ppm (ACGIH); IDLH 50 ppm. Irritation threshold is ~ 5 ppm so any irritation is sign of exposure (per OSHA)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless to pale yellow, fuming liquid. Pungent odor.

pH: < 1

Soluble: Water and alcohol

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, bases, metals, metal oxides, hydroxides, amines, and other alkaline materials. Incompatible with cyanides, sulfides, and formaldehyde. Corrodes metal, including steel. Produces heat when diluted with water.

Shelf life: Good, if stored properly. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Eye and skin corrosion. Respiratory irritation, coughing, ulceration of nose and throat.

ORL-RBT LD₅₀: 900 mg/kg

IHL-RAT LC₅₀: 3124 ppm/1 hour

SKN-RBT LD₅₀: N.A.

Chronic effects: Corrosive to teeth.

Target organs: Respiratory tract, teeth, skin, eyes.

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

SECTION 12 — ECOLOGICAL INFORMATION

Does not biodegrade in soil, 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 #24b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Hydrochloric acid. Hazard class: 8, Corrosive. UN number: UN1789.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-595-7), RCRA code D002.

SECTION 16 — OTHER INFORMATION

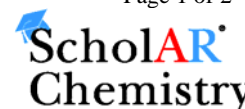
This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, 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: August 12, 2015

MSDS # 329.00

Hydrochloric Acid, Concentrated



Section 1: Product and Company Identification

Hydrochloric Acid, Concentrated

Synonyms/General Names: Muriatic 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 liquid, pungent odor.***HMIS (0 to 4)**

Health	3
Fire Hazard	0
Reactivity	2

DANGER! Strongly corrosive to all body tissue and moderately toxic by ingestion and inhalation.

Target organs: Respiratory system, eyes, skin, lungs

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 3: Composition / Information on Ingredients

Hydrochloric Acid (7647-01-0), 36-38%.

Water (7732-18-5), 62-64%.

Section 4: First Aid Measures

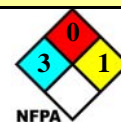
*Always seek professional medical attention after first aid measures are provided.***Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.**Ingestion:** 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.

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. Shipped with a blue safety color code cap.

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 Hydrochloric Acid: OSHA PEL: 5 ppm ceiling and ACGIH TLV: 2 ppm ceiling, STEL: N/A.

Section 9: Physical and Chemical Properties

Molecular formula	HCL.	Appearance	Clear liquid.
Molecular weight	36.46.	Odor	Pungent odor.
Specific Gravity	1.18 g/mL @ 20°C.	Odor Threshold	N/A.
Vapor Density (air=1)	1.27.	Solubility	Completely soluble in water.
Melting Point	-114°C.	Evaporation rate	N/A. (Butyl acetate = 1).
Boiling Point/Range	85°C.	Partition Coefficient	N/A. (log P_{OW}).
Vapor Pressure (20°C)	15 mm Hg.	pH	0 to 1 (very acid & corrosive).
Flash Point:	N/A.	LEL	N/A.
Autoignition Temp.:	N/A.	UEL	N/A.

Section 10: Stability and Reactivity

Avoid heat and ignition sources.

Stability: Stable under normal conditions of use and storage.

Incompatibility: Alkalis, strong bases, metals, amines, carbonates, metal oxides, cyanides, sulfides, sulfites and formaldehyde.

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

Hydrochloric Acid: LD50 [oral, rabbit]; 900 mg/kg; LC50 [rat]; 3124 ppm (1 hour); 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): LC50 - 282 mg/l - 96 h - Gambusia affinis (Mosquito fish).

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:	Hydrochloric Acid.	Canada TDG:	Hydrochloric Acid.
DOT Hazard Class:	8, pg II.	Hazard Class:	8, pg II.
Identification Number:	UN1789.	UN Number:	UN1789 .

Section 15: Regulatory Information

EINECS: Listed (231-595-7).

WHMIS Canada: D1A, E: Very toxic material, Corrosive liquid.

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.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 395.20

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Hydrochloric Acid Solution, 0.1M - 2.4M

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 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).

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Industrial exposure to hydrochloric acid vapors and mists is listed as a known human carcinogen by IARC (IARC-1).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Hydrochloric acid	7647-01-0	HCl	36.46	2-10%
Water	7732-18-5	H ₂ O	18.00	90-98%

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). Immediately call a POISON CENTER or physician (P310). **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).

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 and 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 #9. Store with acids, except nitric acid. Store in a dedicated acid cabinet; if an acid cabinet is not available, store in 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).

Exposure guidelines: (as concentrated HCl) Ceiling 5 ppm (OSHA); Ceiling 2 ppm (ACGIH); IDLH 50 ppm (OSHA). Irritation threshold is ~ 5 ppm so any irritation is sign of exposure (per OSHA)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear, colorless liquid. Acid, chlorine odor.

pH: < 1

Soluble: Water and alcohol

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, bases, amines, and alkali metals. Corrodes metal including stainless steel.

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Eye and skin corrosion. Respiratory irritation, coughing.

ORL-RBT LD₅₀: 900 mg/kg (as concentrated HCl)

Chronic effects: Corrosive to teeth.

IHL-RAT LC₅₀: 3124 ppm/1hour (as concentrated HCl)

Target organs: Respiratory tract, teeth, skin, 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

Does not biodegrade in soil, 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 #24b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Hydrochloric acid. Hazard class: 8, Corrosive. UN number: UN1789.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-595-7), 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 25, 2014



Health	3
Fire	0
Reactivity	0
Personal Protection	

Material Safety Data Sheet

Hydrochloric Acid, 1.00N MSDS

Section 1: Chemical Product and Company Identification

Product Name: Hydrochloric Acid, 1.00N

Catalog Codes: SLH1132

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Water; Hydrochloric acid

CI#: Not applicable.

Synonym: Hydrochloric Acid, 1 N 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	96.4
Hydrogen chloride	7647-01-0	3.63

Toxicological Data on Ingredients: Hydrogen chloride: GAS (LC50): Acute: 4701 ppm 0.5 hours [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive). Slightly hazardous in case of inhalation (lung sensitizer). Non-corrosive for lungs. 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. Severe over-exposure can result in 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:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to upper respiratory tract, skin, eyes, teeth. 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. 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 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. Seek 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: Non-explosive in presence of open flames and sparks, of shocks.

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:

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:

Corrosive liquid. Poisonous liquid. 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. Use water spray to reduce vapors. 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 locked up.. Keep container dry. 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 oxidizing agents, organic materials, metals, alkalis, moisture. May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F).

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:

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:

Hydrogen chloride STEL: 7.5 (mg/m3) from ACGIH (TLV) [United States] STEL: 5 (ppm) from ACGIH (TLV) [United States] CEIL: 5 (ppm) from NIOSH CEIL: 7.5 (mg/m3) from NIOSH CEIL: 5 (ppm) from OSHA (PEL) [United States] CEIL: 7 (mg/m3) from OSHA (PEL) [United States] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Disagreeable and choking. (Slight.)

Taste: Strong.

Molecular Weight: Not applicable.

Color: Clear Colorless.

pH (1% soln/water): 0.1 [Acidic.]

Boiling Point: 110°C (230°F)

Melting Point: -74°C (-101.2°F)

Critical Temperature: Not available.

Specific Gravity: 1.1 (Water = 1)

Vapor Pressure: The highest known value is 2.3 kPa (@ 20°C) (Water).

Vapor Density: 1.26 (Air = 1)

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether.

Solubility:

Easily soluble in cold water. Soluble in hot water, diethyl ether.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials.

Incompatibility with various substances:

Reactive with metals, alkalis. Slightly reactive to reactive with oxidizing agents, organic materials.

Corrosivity:

Highly corrosive in presence of aluminum, of copper, of stainless steel(304), of stainless steel(316). Non-corrosive in presence of glass.

Special Remarks on Reactivity:

It reacts with oxidizers releasing chlorine gas. Incompatible with alkalis, amines, metals [copper and alloys (brass), zinc (galvanized materials)], hydroxides, organic materials, alkali metals, carbides, borides, metal oxides, vinyl acetate, acetylides, sulphides, phosphohides, cyanides, carbonates, It can react with formaldehyde. Reacts with most metals to produce flammable Hydrogen gas.

Special Remarks on Corrosivity:

Highly corrosive. There is no data on corrosivity in presence of zinc, steel, brass. However, hydrochloric acid is incompatible with Copper and copper alloys. It attacks nearly all metals (mercury, gold, platinum, tantalum, silver, and certain alloys are exceptions). It is one of the most corrosive of the nonoxidizing acids in contact with copper alloys.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

LD50: Not available. LC50: Not available.

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Hydrogen chloride]. May cause damage to the following organs: upper respiratory tract, skin, eyes, Circulatory system, teeth.

Other Toxic Effects on Humans:

Very hazardous in case of skin contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive). Slightly hazardous in case of inhalation (lung sensitizer, lung corrosive).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

May cause adverse reproductive effects. May affect genetic material.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes severe skin irritation and burns. May be absorbed through skin in harmful amounts. Eyes: Causes severe eye irritation and burns. May cause irritation of the conjunctiva or blindness Inhalation: Causes irritation and possible burns of the respiratory tract and mucous membranes. May affect the liver and sense organs Ingestion: May be harmful if swallowed. Causes irritation with vomiting, nausea, diarrhea, pain. May cause burning of the gastrointestinal tract. Can cause nausea and vomiting. May affect behavior, the cardiovascular system, and urinary system

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: 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: Class 8: Corrosive material

Identification: : Hydrochloric acid, solution UNNA: 1789 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

Connecticut hazardous material survey.: Hydrochloric acid Illinois toxic substances disclosure to employee act: Hydrochloric acid Illinois chemical safety act: Hydrochloric acid New York release reporting list: Hydrochloric acid Rhode Island RTK hazardous substances: Hydrochloric acid Pennsylvania RTK: Hydrochloric acid Minnesota: Hydrochloric acid Massachusetts RTK: Hydrochloric acid Massachusetts spill list: Hydrochloric acid New Jersey: Hydrochloric acid New Jersey spill list: Hydrochloric acid Louisiana RTK reporting list: Hydrochloric acid Louisiana spill reporting: Hydrochloric acid TSCA 8(b) inventory: Water; Hydrochloric acid TSCA 4(a) proposed test rules: Hydrochloric acid SARA 302/304/311/312 extremely hazardous substances: Hydrochloric acid SARA 313 toxic chemical notification and release reporting: Hydrochloric acid 9.8% CERCLA: Hazardous substances.: Hydrochloric acid: 5000 lbs. (2268 kg);

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

Other Classifications:

WHMIS (Canada): CLASS E: Corrosive liquid.

DSCL (EEC):

This product is not classified according to the EU regulations. Not applicable.

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 0

Personal Protection:

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

Health: 2

Flammability: 0

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 10:32 AM

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.

MATERIAL SAFETY DATA SHEET

HYDROCOTE Co., Inc.
PO Box 97, Somerset, NJ 08875-0097

CHEMTREC: 800-424-9300
Emergency Phone: 732-828-7448

Date of Preparation: 12/08/08

Prepared By: Erick Kasner, PhD

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: POLYSHIELD™ Gloss/Satin
PRODUCT NUMBER: 696xx, 697xx
PRODUCT USE: Wood Coating
PRODUCT CLASS: Paint Related Material
DOT HAZARD CLASS: None
DOT SHIPPING NAME: None

HMIS RATING		SCALE
Health:	1	4 = Extreme
Flammability:	0	3 = High
Reactivity:	0	2 = Moderate
Personal Protection:	B	1 = Slight
		0 = No Effect

A= Goggles; B=Goggles & Rubber Gloves;

G=Rubber Gloves; C= Goggles, Rubber Gloves & Apron

Key: NA=Not Applicable; NE=Not Established; ND=Not Determined

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS		CAS NO	WT %	PEL	TLV	LD50 (oral)	LD50 (skin)
Triethylamine	X	121-44-8	1.2	25	10	NE	NE
N-Methyl Pyrrolidinone		872-50-4	5-10	100	100	NE	NE

X = subject to reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization of Act of 1986 CFR, Part 372

SECTION III - PHYSICAL DATA

Color and Odor:	Clear	Boiling Point:	ND	Vapor Pressure:	ND	pH:	8-8.5
Physical State:	Liquid	Freezing Point:	ND	Vapor Density:	ND	Specific Gravity:	1.037
Viscosity:	Slightly Viscous	Evaporation Rate:	ND	Solubility In Water:	Complete	VOC, lbs/gal:	1.87

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point:	None	Autoignition Temperature:	NA	Special Fire Fighting Procedures:	None
LEL:	NE	Extinguishing Media:		Unusual Fire and Explosion Hazards:	None

SECTION V - REACTIVITY DATA

Chemically Stable:	Yes	Hazardous Decomposition By-Products:	None Known
Incompatible Materials To Avoid:	None Known	Hazardous Polymerization:	Will Not Occur

SECTION VI - TOXICOLOGICAL PROPERTIES

Routes of Entry:	Ingestion	Toxicologically Synergistic Products:	None Known
Sensitization:	No	Medical Conditions Aggravated by Exposure:	None Known
Carcinogenicity:	None	Mutagenicity:	None
	Teratogenicity: None		Reproductive Toxicity: None

EFFECTS OF OVEREXPOSURE (Acute and/or Chronic):

Eyes: Direct contact may cause irritation

Skin: Prolonged or repeated contact may cause irritation.

Ingestion: May cause gastrointestinal irritation, nausea, diarrhea

Inhalation: Prolonged exposure in poorly ventilated area may cause respiratory irritation.

SECTION VII - PREVENTIVE AND CONTROL MEASURES

Respiratory Protection: None normally required with adequate ventilation.	Ventilation: Local Mechanical Exhaust Recommended
Protective Gloves: Rubber type to protect sensitive skin.	Eye Protection: Recommended to prevent splashing into eyes.
Protective Clothing and Equipment: Recommended to prevent skin irritation.	Hygiene Practices: Wash hands thoroughly after product use.
Protective Clothing and Equipment: Recommended to prevent skin irritation.	Hygiene Practices: Wash hands thoroughly after product use.

Keep out of reach of children

Steps to be taken in case material is released or spilled: Absorb with sand, earth or other inert material and dispose in an approved manner.

CAUTION: Keep spills and cleaning run off out of municipal sewers and open bodies of water.

SECTION VIII - PREVENTIVE AND CONTROL MEASURES

FIRST AID NOTES TO PHYSICIAN:

Eyes: Flush with large amount of water for 15 minutes holding eyelids open.

Ingestion: Give 2-3 large glasses of water or milk. Seek medical attention.

Skin: Wash with mild soap and water

Inhalation: Remove to fresh air and let rest.

FLINN SCIENTIFIC, INC.

Material Safety Data Sheet (MSDS)

MSDS #: 397.00

Revision Date: July 13, 2011

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Hydrogen Gas

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

Hydrogen gas

CAS#: 1333-74-0

SECTION 3 — HAZARDS IDENTIFICATION

Colorless gas. Odorless.
Asphyxiation if in high concentrations.
Extremely flammable gas; severe fire hazard.

FLINN AT-A-GLANCE

Health-0
Flammability-3
Reactivity-0
Exposure-0
Storage-0

0 is low hazard, 3 is high hazard

SECTION 4 — FIRST AID MEASURES

Call a physician and 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.

SECTION 5 — FIRE FIGHTING MEASURES

Extremely flammable gas; severe fire hazard.
Gas cylinder or lecture bottle contents under pressure.

Fire Fighting Instructions: Use a triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

H-0
F-4
R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources. Ventilate area of gas leak or remove lecture bottle or gas cylinder to a fume hood or outside.

SECTION 7 — HANDLING AND STORAGE

Store with the bottled gases in a secure area.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and a chemical-resistant apron.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless, odorless gas.

Solubility: Slightly soluble in water and alcohol.

Formula: H₂

Formula weight: 2.02

Boiling point: -252 °C

Melting point: -259.2 °C

Specific gravity: 0.0695

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with oxidizers, heat, sparks, and open flame.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Nausea, dizziness, headache.

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.

One option is to completely empty cylinder in one operating fume hood or outdoors. Avoid flames and sparks. Dispose of empty cylinder in trash, if non refillable.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Hydrogen, compressed

Hazard class: 2.1, Flammable gas

UN number: UN1049

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (215-605-7), RCRA code D001.

SECTION 16 — OTHER INFORMATION

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. 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.**



Material Safety Data Sheet

SECTION 1: Chemical Product and Company Identification

Manufacturer: Cumberland Swan
One Swan Drive
Smyrna, TN 37167

Date: November 1999

Product: Hydrogen Peroxide 3%

Telephone: (615) 459-8900

24hr. Emergency: (615) 459-8900 ext. 5270

SECTION 2: Composition / Information in Ingredients

Name: Hydrogen Peroxide, H_2O_2 **CAS#:** 7722-84-1

OSHA PEL: 1ppm (TWA)

Name: Water

SECTION 3: Hazards Identification

Colorless, odorless liquid that is slightly acidic. Hydrogen peroxide in this concentration is a mild oxidizer, prolonged exposure to elevated concentrations of vapors may result in irritation of the eyes, nose, and throat. Prolonged dermal exposure can result in mild skin irritation.

Potential Routes of Exposure: Ingestion, inhalation, dermal contact, eye contact

Target Organs: Eyes, skin, respiratory system

Symptoms of Overexposure:

Inhalation: Irritation of eyes, nose and throat.

Ingestion: Irritation of the upper G.I. tract, possible distension of the esophagus or stomach.

Dermal Contact: Vesicles on skin, bleaching hair, general irritation of skin

Acute Effects: Irritation of skin as noted above

Chronic Effects: No data

Pre-existing disorders of the skin may be exacerbated by exposure of hydrogen peroxide

HMIS: H=2, F=0, R=1 See Section 8 for PPE information

SECTION 4: First Aid Measures

Eye: Flush eyes with copious amount of water for at least 15 minutes

Skin: Flush with water. If irritation persists, seek medical attention.

Ingestion: Drink plenty of water or milk immediately to dilute. Do not induce vomiting. Seek medical attention or contact the poison control center.

Inhalation: Remove victim to fresh air and seek medical attention

SECTION 5: Fire Fighting Measures

Extinguishing Media: Use water fog, alcohol foam, dry chemical or CO₂

Unusual Fire or

Explosion Hazards: Decomposition releases oxygen which may intensify fire (see section 9)

Recommendations: Extinguish fire using agent suitable for surrounding fire. Cool containers exposed to fire with flooding quantities of water.

SECTION 6: Accidental Release Measures

Large Spills: Evacuate the area of unprotected personnel. Utilize appropriate level of personal protective equipment. Contain source if it is safe to do so. Dike or otherwise confine spilled product. Keep away from open flame.

Small Spills: Dilute with large amounts of water and if possible, direct solution to diked area and hold until decomposed.

SECTION 7: Handling and Storage

Storage Requirements: Store in tightly closed containers in a cool, dry area away from heat and other possible ignition source.

Handling Precautions: Maintain appropriate class of fire extinguishers nearby in case of fire.

SECTION 8: Exposure Controls / Personal Protection

OSHA PEL=1ppm (TWA) OSHA STEL=N/A IDLH=75ppm

Recommended Engineering Controls: Use ventilation equipment as necessary.

Recommended Admin Controls: Train employees on the hazards of Hydrogen Peroxide

PPE: Wear chemical goggles where the threat of exposure exists. Gloves should be worn if the user has sensitive skin or frequently use the product. Eye wash fountains should be provided for personnel in areas where eye exposure is possible.

Recommended Hygiene Practices: Clean PPE and work clothing contaminated with hydrogen peroxide prior to reuse.

SECTION 9: Physical and Chemical Properties

Appearance:	Colorless liquid	Freezing Point:	<0 °C	Autoignition:	N/A
Odor:	Slightly Sharp	Water Solubility:	Miscible	LEL:	N/A
Odor Threshold:	No Data	Molecular Weight:	18.5 (app)	UEL:	N/A
Vapor Pressure:	10.1mm	Specific Gravity:	1.0	Vapor Density:	.63(app)
Boiling Point:	214 °F	Flash Point:	>200 °F		

SECTION 10: Stability and Reactivity

Stability: Slightly unstable

Polymerization: Will not occur

Conditions to avoid: Heat, sparks, and open flame, contact with incompatible materials. Hydrogen Peroxide in great concentrations is incompatible with reducing agents, rust, dirt, organic materials.

Hazardous Products of Decomposition: Decomposition releases oxygen which may intensify fire.

SECTION 11: Toxicological Information

LD₅₀: 4060 mg/kg (dermal rat) LC₅₀: 2000 mg/m³ (4hr inhalation, rat)
LD_{Lo}: 227 ppm (inhalation- mouse)
Carcinogenicity: Not identified as a carcinogen by OSHA, IARC, or NTP
Mutagenicity: Not Indicated
Reproductive Effects: Not Indicated

SECTION 12: Ecological Information

Ecotoxicity: N/A Environmental Fate: N/A Soil Absorption/Mobility: Highly Mobile

Environmental Degradation: Should be removed readily from soils and water by volatilization and biodegradation.

SECTION 13: Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations.
Disposal Regulatory Requirements: Follow applicable federal, state and local regulations.

SECTION 14: Transport Information

Shipping Name: Hydrogen Peroxide (Non Regulated in concentrations <8%)

SECTION 15: Regulatory Information

RCRA Hazardous Waste Number/Classification: N/A
CERCLA Substance: N/A
CERCLA Reportable Quantity: 10,000 lbs (Default)
SARA 311/312 Codes: N/A
SARA Toxic Chemical: N/A

SECTION 16: Other Information

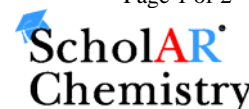
Prepared by: Cumberland Swan

Source of Information: 29CFR1910.1000; NIOSH Pocket Guide to Chemical Hazards (1993); Occupational Health Guidelines for Chemical Hazards; NFPA Guide to Hazardous Materials - 10th Edition.

Disclaimer: While reasonable care has been taken to ensure the accuracy and completeness of the information regarding the material described herein, it is the purchaser's responsibility to ensure the suitability of such information as it applies to the purchaser's intended use of the material.

MSDS # 346.00

Hydrogen Peroxide, 30%



Section 1: Product and Company Identification

Hydrogen Peroxide, 30%

Synonyms/General Names: N/A**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 liquid; slightly pungent odor.***HMIS (0 to 4)**

Health	3
Fire Hazard	0
Reactivity	2

WARNING! Strong oxidizing agent and strongly corrosive to all body tissue.

Target organs: Respiratory and gastrointestinal tracts, skin, eyes

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 3: Composition / Information on Ingredients

Hydrogen Peroxide (7722-84-1), 30%.

Acetanilide (103-84-4), < 1%.

Water (7732-18-5), 70%.

Section 4: First Aid Measures

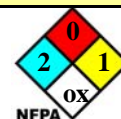
*Always seek professional medical attention after first aid measures are provided.***Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.**Ingestion:** 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

Strong oxidizing agent. When heated to decomposition, produces oxygen gas.

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. Contain spill with sand or absorbent material and place in sealed bag or container for disposal. Ventilate and wash spill area after pickup is complete. See Section 13 for disposal information.

Section 7: Handling and Storage

Yellow**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 Oxidizer Storage Area [Yellow Storage] with other oxidizers and away from any combustible materials. 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 Hydrogen Peroxide: OSHA PEL: 1.4 mg/m³; ACGIH TLV: 1.4 mg/m³; STEL:N/A.

Section 9: Physical and Chemical Properties

Molecular formula	H ₂ O ₂	Appearance	Clear, colorless liquid.
Molecular weight	34.01.	Odor	Slightly pungent odor.
Specific Gravity	1.1 g/mL @ 20°C.	Odor Threshold	N/A.
Vapor Density (air=1)	0.8 - 1.0 (calculated).	Solubility	Completely soluble in water.
Melting Point	-26°C.	Evaporation rate	> 1 (Butyl acetate = 1).
Boiling Point/Range	107°C.	Partition Coefficient	N/A. (log P _{ow}).
Vapor Pressure (20°C)	N/A.	pH	N/A.
Flash Point:	N/A.	LEL	N/A.
Autoignition Temp.:	N/A.	UEL	N/A.

Section 10: Stability and Reactivity

Avoid heat and ignition sources.

Stability: Instable, many materials will catalyze the decomposition of hydrogen peroxide to produce oxygen, water, and heat.

Incompatibility: Acids, bases, metals, metal salts, reducing agents, organic materials, alkalis, dust and dirt contaminants, flammable substances.

Shelf life: Fair shelf life, store in a cool, dry environment.

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: Repeated/prolonged skin contact may cause thickening, blackening or cracking. Repeated eye exposure may cause corneal erosion or loss of vision.

Sensitization: none expected

Hydrogen Peroxide: LD50 [oral, rat]; N/A; 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): Toxic to beneficial microorganisms (e.g. soil and sewage treatment microorganisms). 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. Decompose small amounts of material with a catalyst to produce water.

Section 14: Transport Information

DOT Shipping Name:	Hydrogen Peroxide, Aqueous Soln.	Canada TDG: Hydrogen Peroxide, Aqueous Soln.,
DOT Hazard Class:	5.1,(8), pg II.	Hazard Class: 5.1,(8), pg II .
Identification Number:	UN2014.	UN Number: UN2014.

Section 15: Regulatory Information

EINECS: Listed (231-765-0).

WHMIS Canada: C, E, F: Oxidizing, Corrosive, Dangerously Reactive.

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.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 398.50

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Hydrogen Peroxide Solution, 2%-6%

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 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
Hydrogen peroxide	7722-84-1	H ₂ O ₂	34.02	2-6%
Water	7732-18-5	H ₂ O	18.00	94-98%

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

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: Inorganic #6. Store with chlorates, bromates, iodates, chlorites, perchloric acid, and peroxides. Light sensitive. Store in a dark, vented container. Stored at room temperature, this substance decomposes at about 0.5% per year.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).
Exposure guidelines: (as hydrogen peroxide) PEL/TLV 1 ppm (OSHA, ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear, colorless liquid. Odorless.
Soluble: Water and alcohol

Specific gravity: 1.0
Not for human use.

SECTION 10 — STABILITY AND REACTIVITY

Keep away from reducing agents, strong bases, organics, combustible material, and oxidizable materials. Avoid heating this substance.

Shelf life: Fair to poor. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.
Chronic effects: Dermatitis.
Target organs: N.A.

ORL-HUMAN LD₅₀: 1429 mg/kg as hydrogen peroxide
IHL-RAT LC₅₀: 2000 mg/m³ as hydrogen peroxide
SKN-RAT LD₅₀: 3000 mg/kg as hydrogen peroxide

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

SECTION 12 — ECOLOGICAL INFORMATION

Carp LC₅₀: 42 mg/L (48 hour as hydrogen peroxide) Daphnia EC₅₀: 2.4 mg/L (48 hour as hydrogen peroxide)

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 (231-765-0), 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



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product name	Tile Mate Premium Series
MSDS name	Tile-Mate Premium Series
Product name(s) covered	See Section 16 for Product Names Covered.
CAS #	Mixture
Product use	Thin Set Mortar
Generic description	Cementitious Based Formulation
Manufacturer	Bostik, Inc. 11320 Watertown Plank Rd Wauwatosa, WI 53226 USA
24 hour emergency assistance	Telephone: 1-800-227-0332 (Outside U.S.) 1-703-527-3887
General assistance	Telephone: 1-800-843-0844
MSDS assistance	Telephone: 1-800-843-0844

2. Hazards Identification

Emergency overview	Exposure to dust may be irritating to eyes, nose, and throat. Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of Silica dust. This product contains trace amounts of hexavalent chromium, a skin sensitizer and human carcinogen. Prolonged/repeated exposure may cause severe allergic skin reactions and/or cancer. Wet product has a high pH and is caustic. Wet product or dry product on moist skin can potentially cause severe irritation and/or irreversible tissue damage due to chemical (caustic) burns.
Potential health effects	
Eyes	Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry powder or with wet product can cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye.
Skin	Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis. Mechanical rubbing may increase skin irritation. Skin contact may cause an allergic response in some individuals due to trace amounts of chromium (6+) salts. Symptoms can range from a mild rash to severe skin ulcers. Persons already sensitized to hexavalent chromium may experience symptoms after minimal exposure. Wet product has a high pH and is caustic. Exposure of sufficient duration to wet product, or to dry product on moist skin, can cause serious, potentially irreversible tissue damage due to chemical (caustic) burns, including third degree burns.
Inhalation	This product contains free crystalline silica. Prolonged or repeated inhalation of crystalline silica can aggravate lung conditions and lead to silicosis, a seriously disabling and potentially fatal lung disease. Inhalation of free crystalline silica has also been linked to increased occurrence of renal disease and auto immune disorders.
Ingestion	Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.
Target organs	Respiratory tract - Silica can target and damage the lungs. Some studies show an increased incidence in kidney and end-stage renal disease in individuals exposed to respirable Silica. Hexavalent chromium can cause skin sensitization and damage.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Silica, Quartz	14808-60-7	60 - 100
Portland Cement	65997-15-1	15 - 40

Composition comments	Chronic overexposure to Silica can cause chronic lung disease (Silicosis) and/or cancer. Portland Cement contains up to 10 ppm (0.001%) Hexavalent chromium, which is a skin sensitizer and carcinogen.
	Parts Per Million (ppm) = 0.0001%
	mg/kg = 1 ppm (0.0001%)
	g/kg = 1000 ppm (0.1%)
	Conversion from mg/m3 to ppm: ppm = (mg/m3 / molecular weight in grams) x 24.45
4. First Aid Measures	
First aid procedures	
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention or advice.
Skin contact	Wash affected area with mild soap and water. Seek medical attention for rash, burns, irritation, dermatitis, and prolonged, unprotected exposures to wet product.
Inhalation	If inhaled, immediately remove the affected person to fresh air. Call a physician if symptoms develop or persist. Consult a physician after significant exposure.
Ingestion	If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting.
Notes to physician	Short-term exposure to very large amounts of respirable crystalline silica can cause serious lung inflammation and pulmonary edema, resulting in shortness of breath and low blood oxygen levels. Longer-term exposure may result in nodules of chronic inflammation and scarring in the lungs and chest lymph nodes. Symptoms of long-term exposure may resemble those of chronic obstructive pulmonary disease (COPD).

5. Fire Fighting Measures

Hazardous combustion products	Non-combustible, substance itself does not burn.
Extinguishing media	
Suitable extinguishing media	Use any media suitable for the surrounding fires.
Basic fire fighting procedures	Not a fire hazard. This material will not burn. Wet product has a high pH and is caustic. Use personal protective equipment to prevent inhalation of airborne product and eye and skin contact with wet or dry product.
Fire fighting equipment/instructions	Firefighters should wear full protective clothing including self contained breathing apparatus.
Dust explosion hazard	None Known
Sensitivity to static discharge	None Known
Flash point	Non- Flammable

6. Accidental Release Measures

Emergency action	Isolate area. Keep unnecessary personnel away. Avoid inhalation of dust from the spilled material. Avoid contact with skin and eyes. Wet product has a high pH and is caustic.
Environmental precautions	Prevent further leakage or spillage if safe to do so.
Containment procedures	Contain the discharged material. Sweep up material and place in appropriate disposal container. Use sweeping compound or other cleaning aids to pick up residues. Wash down area thoroughly with water. Use appropriate personal protective equipment as necessary.
Reporting	See Federal reporting requirements listed in Section 15. We recommend you contact local authorities to determine if there may be other local reporting requirements.
Personal precautions	Avoid dust formation.

7. Handling and Storage

Handling	Avoid breathing dusts from this material. Avoid getting this material into contact with your skin and eyes. Promptly remove and launder clothing that is dusty or wet with product. Thoroughly wash skin after exposure to dry or wet product.
Storage	Keep the container tightly closed and in a cool, well-ventilated place.
Empty container precaution	Attention! Follow label warnings even after container is emptied since empty containers may retain product residues. Do not reuse empty container without professional cleaning for food, clothing, or products for human or animal consumption, or where skin contact can occur.

8. Exposure Controls / Personal Protection

Engineering controls	Ventilation should effectively remove and prevent buildup of any dust generated from the handling of this product.
Personal protective equipment	
Eye protection	Wear safety goggles to prevent eye contact with dry or wet product. In extremely dusty or unpredictable environments, wear unvented or indirectly vented goggles to avoid eye irritation or injury.
Skin and body protection	Wear impervious abrasion and alkaline resistant gloves and boots, long sleeved shirt, long pants, safety goggles and other protective clothing as required to prevent skin contact. Remove clothing and protective equipment that becomes dusty from dry product or saturated with wet product and immediately wash exposed areas.
Respiratory protection	None required where adequate ventilation conditions exist. Special applications may necessitate the use of more stringent respiratory protection equipment.
General	Eye wash fountain and emergency showers are recommended.

9. Physical & Chemical Properties

Target solids	100 %
pH	N/A (pH of wet product is 12.0 or greater)
Density	2.84 g/cc
Odor	Slight
Color	Various
Physical state	Powder
Freeze protect	No

10. Chemical Stability & Reactivity Information

Hazardous reactions/decomposition products	Wet product has a high pH and is caustic. This product is incompatible with acids, ammonia salts, and aluminum metal.
Stability	Stable under normal conditions.

11. Toxicological Information

Chronic effects	Chronic overexposure to Silica has been associated with the development of chronic lung disease (Silicosis) and cancer. Hexavalent chromium can cause skin sensitization, dermatitis, and cancer. Individuals already sensitized to Hexavalent chromium can have an adverse reaction to even small exposures.
------------------------	---

12. Ecological Information

Ecotoxicological information	Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
-------------------------------------	---

13. Disposal Considerations

It is the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable local, state and federal regulations.

Waste disposal

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

14. Transport Information**DOT**

Not regulated as hazardous goods.

DOT NON-BULK

Not regulated as hazardous goods.

IATA

Not regulated as hazardous goods.

IMDG

Not regulated as hazardous goods.

15. Regulatory Information

This MSDS is prepared and distributed pursuant to the Federal Hazard Communication Standard, 29 CFR 1910.1200

Federal regulations

All components are on the U.S. EPA TSCA Inventory List.

State regulations

If this product contains any California Proposition 65 chemicals at reportable levels they will be listed below:

Titanium Dioxide

Restriction of Hazardous Substances (RoHS)

The product(s) covered by this (M)SDS do not contain or are under the prescribed levels of prohibited substances listed under 2011/65/EU Hazardous Substances Restricted or Prohibited in Electrical Equipment, including lead (CAS # 7439-92-1), mercury (CAS # 7439-97-6), cadmium (CAS # 7440-43-9), hexavalent chromium (CAS # 7440-47-3), polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE).

International regulations

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

Substances of Very High Concern (SVHC)

The product(s) covered by this (M)SDS do not include any of the substances above a concentration of 0.1% weight by weight (w/w) in the Candidate List of Substances of Very High Concern (SVHC) for authorization published or proposed by ECHA on the following dates:

- October 28, 2008
- August 31, 2009
- January 13, 2010
- March 8, 2010
- June 18, 2010
- October 14, 2010
- December 15, 2010
- June 20, 2011
- December 19, 2011
- February 17, 2012
- June 18, 2012
- December 19, 2012

HMIS Ratings

Health: 3*
Flammability: 0
Physical hazard: 0
Personal protection: X

SARA 311/312 HAZARD CATEGORIES

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

WHMIS status

Controlled

WHMIS labeling

WHMIS classification

D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC
E - Corrosive

16. Other Information**Product name(s) covered**

G00710 - TILE-MATE PREMIUM 710-50 WHITE
G00760 - TILE-MATE PREMIUM 760-50 GRAY

Disclaimer

The data in this MSDS has been compiled from publicly available sources. This data relates only to the designated product and not to the use of said product in combination with other materials. 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 which exist. Responsibility for proper precautions and safe use of the product lies with the user. All data in this MSDS is typical of the product as a whole, and does not represent any individual lot or batch, therefore, Bostik, Inc. makes no warranty about the accuracy of the data herein and assumes no liability for the use of such data. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.

Further information

If there are any characters following an individual item number, they are just designations for the various types of packaging that are available for this product. For example, a product "G12345-XX" is item number "G12345" with a packaging designation of "XX". These characters do not indicate a different product nor a different regulatory, health, safety and/or environmental status. This document covers the item numbers listed above for all of their packaging types.

Issue date

03/25/2013

Prepared by

Bostik, Inc. Regulatory Affairs

Supersedes

03/25/2013

This data sheet contains changes from the previous version in section(s):

Hazards Identification: Emergency overview
Hazards Identification: Eyes
Hazards Identification: Skin
Hazards Identification: Ingestion
First Aid Measures: Skin contact
Fire Fighting Measures: Basic fire fighting procedures
Accidental Release Measures: Emergency action
Handling and Storage: Handling
Exposure Controls / Personal Protection: Eye protection
Exposure Controls / Personal Protection: Skin and body protection
Chemical Stability & Reactivity Information: Hazardous reactions/decomposition products
Ecological Information: Ecotoxicological information

SAFETY DATA SHEET Pg. 1

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hydroxi Pro Concentrated Cleaner

Product Use: Heavy Duty cleaner

Supplier: Core Products Co., Inc.

Address: 401 Industrial Rd

Canton, TX 75103

Telephone: 800-825-2673

Emergency: CHEMTREC: 800-424-9300

SECTION 2 – HAZARDS IDENTIFICATION

Emergency Overview: This product is a clear flowable liquid. It may cause slight irritation to the eyes. If ingested, it may cause abdominal discomfort, nausea, and dizziness.

Potential Health Effects:

Eye: Contact with liquid may cause mild irritation.

Skin: contact with Skin may cause mild irritation.

Ingestion: May cause abdominal discomfort and nausea

Carcinogenicity: Non-hazardous by OSHA criteria.

Teratogenicity, Mutagenicity, Reproductive Effects: No data available

Synergistic Materials: Not available

Potential Environmental Effects: No data available

SECTION 3 – COMPOSITION, INFORMATION ON INGREDIENTS

This product has not been tested as a whole for health effects on animals or humans. Hazardous ingredients as defined in 29 CFR 1910.1200 if any, are not present at regulated levels.

INGREDIENTS:	CAS#	%	OSHA/PEL	ACGIH/TLV
Hydrogen Peroxide	7722-84-1	< 4%	1.4 mg/m3	1.4 mg/m3
Alcohol Ethoxylate	68131-39-5	< 3%	NE	NE

SECTION 4 - FIRST AID MEASURES

Eye: Immediately flush with warm running water for 15 minutes. If irritation persists, repeat flushing and obtain medical attention immediately.

Skin: Wash with soap and warm. If irritation develops obtain medical attention. Remove contaminated clothing and launder before reuse.

Inhalation: Remove the affected victim to fresh air. No emergency care anticipated.

Ingestion: Do Not Induce Vomiting. If patient is fully conscious, rinse mouth with water and drink 2 glasses of water. Obtain medical attention immediately. Never give anything by mouth if victim is unconscious, is rapidly losing consciousness, or is convulsing.

SAFETY DATA SHEET Pg. 2

SECTION 5 - FIRE FIGHTING MEASURES

Flammability: Not Flammable (aqueous solution)

Flash Point (°F, °C, PMCC): >212 F

Autoignition Temperature (°F, °C): Not available

Flame Propagation or Burning Rate of Solid Materials: Not applicable

Sensitivity to Static Discharge: Not sensitive

Sensitivity to Mechanical Impact: Not sensitive

Extinguishing Media: Water fog, alcohol foam, and dry chemical.

Special Fire Fighting Procedures: Not applicable

Unusual Fire and Explosion Hazards: None

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedure: Collect for disposal. Clean up remaining materials from spill with suitable absorbent. For large spills provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in compatible drums for recovery or disposal. Clean area as appropriate since some material, even in small quantities, may present a slip hazard. Observe all personal protection equipment recommendations.

SECTION 7 - HANDLING AND STORAGE

Storage Requirements: Keep Out Of Reach Of Children. Store in a cool, dry place away from incompatible materials.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls: General ventilation usually adequate.

Respiratory protection: Not normally required if good ventilation is maintained.

Eye protection: use chemical safety glasses or full face shield.

Skin protection: use impervious gloves.

Other protective clothing or equipment: Not normally required

Work Hygienic Practices: The usual precaution for the handling of chemicals must be observed.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Viscous liquid **Specific Gravity @ 20_C:** 1.01

Vapor Pressure (mm Hg @20oC): NA **% Volatile (Wt %):** NA

Vapor Density (Air = 1): NA **Evaporation Rate (Butyl Acetate = 1):** NA

Solubility in Water: 100% **Freezing Point:** NA

pH (as is): 6.0-6.5 **Boiling Point,** >212 F

Odor: Clear liquid with mild citrus odor

SAFETY DATA SHEET Pg. 3

SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: none

Incompatible Materials: acids and oxidizing agents

Hazardous Decomposition or By-Products: none

Hazardous Polymerization: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

There is no test data on this product. Based on the information on the ingredients (see section 2) this product may cause irritation to the eyes and skin upon contact.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: There is no test data on this product

Environmental Fate: There is no test data on this product

SECTION 13 – DISPOSAL CONSIDERATIONS

Observe all federal, provincial or state and local government requirements prior to disposal.

SECTION 14 - TRANSPORT INFORMATION

U.S. Department of Transportation (DOT): Not Regulated

Water Transportation (IMO): Not Regulated

Air Transportation (IATA): Not Regulated

SECTION 15 - REGULATORY INFORMATION

Sara 313-reportable ingredients are not present.

SECTION 16 - OTHER INFORMATION

Revision date: 1/1/2013

The manufacturer and seller warrant that the product conforms to its standard specifications when used according to directions. As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for use of this product. Information contained hereinafter is believed to be true and accurate but all statements or suggestions are made without any warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material and the results to be obtained from the use thereof.

Footnotes:

NA-Not applicable NE-data not established CS-Cancer Suspect Agent OX-Oxidizer ND-No data Cor-Corrosive

CALC-Calculated EST-Estimated STEL-Short Time Exposure Limit TLV-Threshold limit Value PEL-Permissible Exposure

Limit TWA-Time Weighted Average, 8 hours HMIS, PPI-Hazardous Material Identification System, Personal Protection Index

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 401.20

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Hydroxy Naphthol Blue

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
Hydroxy naphthol blue, disodium salt	165660-27-5	$C_{20}H_{14}O_{11}N_2S_3Na_2$	598.50	

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.

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.
Store in a cool, dry place. Keep container tightly closed.

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

Dark blue, crystalline powder. Odorless.
Soluble: Water. Slightly in alcohol.

Boiling point: 1413 °C
Melting point: 801 °C

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 (264-197-7).

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: March 21, 2014

SAFETY DATA SHEET

ICE MACHINE CLEANER M.I.I.

Product ID: MI089500

Revised: 05-04-2015

Replaces: 02-10-2014

1. IDENTIFICATION

Product Identifier: ICE MACHINE CLEANER M.I.I.
Other Identifiers: O-99725
CAS Number: MIXTURE
Recommended Use: No data available.
Restrictions on Use: No data available.

Manitowoc Ice
2110 South 26th Street
Manitowoc, WI 54220
(920) 682-0161
www.manitowocice.com

EMERGENCY RESPONSE NUMBER:
CHEMTREC Emergency # (US + Canada):
(800) 424-9300
CHEMTREC Emergency # (INTERNATIONAL):
+01-703-527-3887

2. HAZARD(S) IDENTIFICATION

GHS Classification(s): Skin Corrosion/Irritation Category 1C
Serious Eye Damage/Eye Irritation Category 1

GHS Label Elements:

GHS Hazard Symbols:



Signal Word: Danger

Hazard Statements: Causes severe skin burns and eye damage.

Precautionary Statements:

Prevention: Do not breathe dust/fume/gas/mist/vapours/spray.
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.
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 doctor/physician.
Specific treatment (see First Aid on SDS or on this label).
Wash contaminated clothing before reuse.

Storage: Store in a secure manner.

Disposal: Dispose of in accordance with local, regional and international regulations.

Hazards Not Otherwise Classified: May react with certain metals to form explosive/flammable hydrogen gas. May react violently with water.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances/Mixtures:

<u>Chemical or Common Name/Synonyms</u>	<u>CAS Number</u>	<u>% by Wt.</u>
Phosphoric Acid	7664-38-2	< 40 %
Citric Acid	77-92-9	< 10 %

Note: Any chemical identity and/or exact percentage not expressly stated is being withheld as a trade secret or is due to batch variation.

4. FIRST-AID MEASURES

Description of Necessary Measures:

Eye Contact: If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Remove contact lens if easy to do.

Skin Contact: If on skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned. Do not apply oils or ointments unless ordered by the physician.

Inhalation: If inhaled: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY. 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.

Ingestion: If swallowed: If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Most Important Symptoms/Effects, Acute and Delayed:

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: ulcerations. conjunctivitis. permanent eye damage. blindness. redness. burning sensation.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Contact may cause: dermatitis (inflammation of the skin). ulceration. permanent skin damage. drying. cracking. itching. redness. burning sensation.

Skin Absorption: No absorption hazard expected under normal use.

Inhalation: May be corrosive to the respiratory tract. Severe irritation and burns may result. Vapors or mists may irritate or burn: respiratory tract. nose. mouth. throat. May cause: persistent coughing. pulmonary edema. chemical pneumonitis. permanent damage.

Ingestion: CORROSIVE-Causes severe irritation and burns. May irritate or burn: mouth. throat. stomach. esophagus. May cause: abdominal pain. chest pain. nausea. vomiting. diarrhea. seizures. hemorrhaging. permanent damage. Aspiration into the lungs may occur during ingestion or vomiting, resulting in severe pulmonary injury. May be fatal if swallowed.

Indication of Immediate Medical Attention and Special Treatment Needed: There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Not flammable or combustible. For fires in area use appropriate media. For example: Water spray. Dry chemical. Carbon dioxide. Foam.

Specific Hazards Arising from the Chemical:

Fire and Explosion Hazards: None known. May react with certain metals to form explosive/flammable hydrogen gas.

ICE MACHINE CLEANER M.I.I.
Product ID: MI089500

Hazardous Combustion Products: Phosphorous oxides. Phosphine. Toxic vapors. Corrosive vapors. Carbon dioxide. Carbon monoxide.

Special Protective Equipment and Precautions for Fire-Fighters: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers. Product generates heat upon addition of water, with possible spattering. Run-off from fire control may cause pollution.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, Emergency Procedures: CORROSIVE MATERIAL. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit.

Methods and Materials for Containment and Clean Up: 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 and neutralize with Soda Ash, Lime or Limestone and dispose of properly. Adequate ventilation is required if soda ash is used, because of the consequent release of carbon dioxide gas. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. CORROSIVE MATERIAL. Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Mixing with strong bases can cause high heat of reaction and generate steam.

Conditions for Safe Storage, Including any Incompatibilities: CORROSIVE MATERIAL. Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Do not freeze. May react with certain metals to form explosive/flammable hydrogen gas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

Component	Limits
Phosphoric Acid	1 mg/m3 TWA

ACGIH Exposure Guidelines:

Component	Limits
Phosphoric Acid	1 mg/m3 TWA; 3 mg/m3 STEL

Engineering Controls: General room ventilation and local exhaust are required. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Individual Protection Measures:

Eye/Face Protection: Wear chemical safety goggles and a full face shield while handling this product. Do not wear contact lenses.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Impervious. Chemical-resistant. Acid-proof.

Respiratory Protection: Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved respirator. 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 Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Chemical safety shoes. Rubber boots. Protective clothing.

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.

Color: Clear. Green.

Odor: No odor.

Odor Threshold: N.D.

pH: < 2 (as is)

Freezing Point (deg. F): N.D.

Melting Point (deg. F): N.D.

Initial Boiling Point or Boiling Range: N.D.

Flash Point: N.A.

Flash Point Method: N.A.

Evaporation Rate (nBuAc = 1): N.D.

Flammability (solid, gas): N.D.

Lower Explosion Limit: N.A.

Upper Explosion Limit: N.A.

Vapor Pressure (mm Hg): N.D.

Vapor Density (air=1): N.D.

Specific Gravity or Relative Density: 1.22-1.24 @ 25 Deg. C

Solubility in Water: Complete

Partition Coefficient (n-octanol/water): N.D.

Autoignition Temperature: No Data

Decomposition Temperature: N.D.

Viscosity: N.D.

% Volatile (wt%): N.D.

VOC (wt%): N.D.

VOC (lbs/gal): N.D.

Fire Point: N.D.

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions. May react with certain metals to form explosive/flammable hydrogen gas. Mixing with strong bases can cause high heat of reaction and generate steam. Phosphoric acid forms flammable gases with sulfides, mercaptans, cyanides and aldehydes. Phosphoric acid forms toxic fumes with cyanides, sulfides, fluorides, organic peroxides, and halogenated organics. Phosphoric acid mixtures with nitromethane are explosive.

Conditions to Avoid: Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Avoid high temperatures.

Incompatible Materials: Metals. Strong oxidizing agents. Strong reducing agents. Sulfides. Sulfites. Bases. Fluorine. Sulfur trioxide. Phosphorous pentoxide. Sodium tetrahydroborate. Aldehydes. Amines. Amides. Alcohols. Azo-compounds. Carbamates. Esters. Caustics. Phenols. Cresols. Ketones. Organophosphates. Epoxides. Explosives. Combustible materials. Unsaturated halides. Organic peroxides. Mercaptans. Cyanides. Nitromethane. Glycols. Fluorides. Halogenated organics. Sulfur. Aluminum. Copper. Mild steel. Brass. Bronze. Steel. Alkalies. Carbonates. Acetates. Potassium Tartrate. Metal Nitrates. Reducing agents. Bicarbonates. Alkali

ICE MACHINE CLEANER M.I.I.**Product ID: MI089500**

metals. Copper, aluminum, zinc and their alloys. Lead. Oxides of sulfur. Fiber-reinforced Polyester. Cast Iron. Reactive Metals.

Hazardous Decomposition Products: Phosphorous oxides. Phosphine. Reactions with other materials may liberate toxic and/or explosive gases. Carbon dioxide. Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure: Eyes. Skin. Inhalation. Ingestion.

Symptoms/Effects: Acute, Delayed and Chronic:

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: ulcerations. conjunctivitis. permanent eye damage. blindness. redness. burning sensation.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Contact may cause: dermatitis (inflammation of the skin). ulceration. permanent skin damage. drying. cracking. itching. redness. burning sensation.

Skin Absorption: No absorption hazard expected under normal use.

Inhalation: May be corrosive to the respiratory tract. Severe irritation and burns may result. Vapors or mists may irritate or burn: respiratory tract. nose. mouth. throat. May cause: persistent coughing. pulmonary edema. chemical pneumonitis. permanent damage.

Ingestion: CORROSIVE-Causes severe irritation and burns. May irritate or burn: mouth. throat. stomach. esophagus. May cause: abdominal pain. chest pain. nausea. vomiting. diarrhea. seizures. hemorrhaging. permanent damage. Aspiration into the lungs may occur during ingestion or vomiting, resulting in severe pulmonary injury. May be fatal if swallowed.

Numerical Measures of Toxicity:

Component	Oral LD50	Dermal LD50	Inhalation LC50
Phosphoric Acid	Rat: 1530 mg/kg	Rabbit: 2730 mg/kg	1H Rat: > 850 mg/m3
Citric Acid	Rat: 3000 mg/kg	Rat: > 2000 mg/kg	No Data
Oxirane, Methyl-, Polymer with Oxirane	No Data	No Data	4H Rat: 320 mg/m3

Acute Toxicity Estimate

(ATE):

Inhalation Vapor: 21.3333 mg/L

Inhalation 21.3333 mg/L

Dust/Mist:

Cancer Information:

This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

Medical Conditions Aggravated by Exposure to Product: Eye disorders. Skin disorders. Impaired respiratory function. Lung disorders. Respiratory system disorders.

Other: None known.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: No data available.

Chemical Fate Information: No data available.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: D002

ICE MACHINE CLEANER M.I.I.
Product ID: MI089500

Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. Since emptied containers retain product residue, follow label warnings even after container is emptied. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition. Disposal methods identified are for the product as sold. 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.

14. TRANSPORT INFORMATION

DOT (Department of Transportation):

Identification Number: UN1760
Proper Shipping Name: Corrosive Liquid, N.O.S. (Contains Phosphoric Acid, Citric Acid)
Hazard Class: 8
Packing Group: III
Label Required: CORROSIVE
Reportable Quantity (RQ): 5000# (Phosphoric Acid)

Note: The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors. In the United States, it may be possible to reclassify this material as a Consumer Commodity ORM-D based on 49 CFR 173.154 (b)(c).

15. REGULATORY INFORMATION

TSCA Inventory Status: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA Title III Section 311/312 Category Hazards:

<u>Immediate (Acute)</u>	<u>Delayed (Chronic)</u>	<u>Fire Hazard</u>	<u>Pressure Release</u>	<u>Reactive</u>
Yes	No	No	No	No

<u>Regulated Components:</u>	<u>CAS</u>	<u>CERCLA</u>	<u>SARA</u>	<u>SARA</u>	<u>U.S.</u>	<u>WI</u>	<u>Prop</u>
<u>Component</u>	<u>Number</u>	<u>RQ</u>	<u>EHS</u>	<u>313</u>	<u>HAP</u>	<u>HAP</u>	<u>65</u>
Phosphoric Acid	7664-38-2	Yes	No	No	No	Yes	No

***Prop 65 - May Contain the Following Trace Components:**

This product contains a chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

16. OTHER INFORMATION

Hazard Rating System

Health: 3
Flammability: 0
Reactivity: 0

* = Chronic Health Hazard

NFPA Rating System

Health: 3
Flammability: 0
Reactivity: 0
Special Hazard: None

SDS Abbreviations

N.A. = Not Applicable
N.D. = Not Determined
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound

ICE MACHINE CLEANER M.I.I.

Product ID: MI089500

C = Ceiling Limit

N.E./Not Estab. = Not Established

SDS Prepared by: JAK

Reason for Revision: Changes made throughout the SDS. New format.

Revised: 05-04-2015

Replaces: 02-10-2014

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 MANITOWOC ICE assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.

SAFETY DATA SHEET

ICE MACHINE SANITIZER

Product ID: MI089600

Revised: 02-11-2014

Replaces: 01-04-2012

1. IDENTIFICATION

Product Name: ICE MACHINE SANITIZER
Synonyms: N.A.
CAS Number: MIXTURE
Recommended Use: No data available.
Restrictions on Use: No data available.

Manitowoc Ice
2110 South 26th Street
Manitowoc, WI 54220
(920) 682-0161
www.manitowocice.com

EMERGENCY RESPONSE NUMBER:
CHEMTREC Emergency # (US + Canada):
(800) 424-9300
CHEMTREC Emergency # (INTERNATIONAL):
+01-703-527-3887

2. HAZARD(S) IDENTIFICATION



Signal Word: Danger

GHS Classification: Serious Eye Damage/Eye Irritation Category 1
Skin Corrosion/Irritation Category 2
Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3

Hazard Statements: Causes skin irritation.
Causes serious eye damage.
May cause respiratory irritation.

Precautionary Statements:

Prevention: Avoid breathing dust, gas, mist, vapors or spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear gloves, eye and face protection and protective clothing.

Response: IF ON SKIN: Wash with plenty of soap and water.
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 doctor/physician.
Specific treatment (see First Aid on SDS or on this label).
If skin irritation occurs: Get medical advice or attention.
Take off contaminated clothing and wash before reuse.

Storage: Store in a well-ventilated place. Keep container tightly closed.
Store in a secure manner.

Disposal: Dispose of in accordance with local, regional and international regulations.

ICE MACHINE SANITIZER

Product ID: MI089600

Hazards Not Otherwise Classified: May cause damage to the kidneys, liver, blood, and may cause birth defects and other reproductive harm.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS Number</u>	<u>% by Wt.</u>
Alkyl(50%C14,40%C12,10%C16) dimethyl benzyl ammonium chloride	68424-85-1	3.0 %
Octyl decyl dimethyl ammonium chloride	32426-11-2	2.25 %
Ethyl Alcohol	64-17-5	0 - 2 %
Didecyl dimethyl ammonium chloride	7173-51-5	1.125 %
Diocetyl dimethyl ammonium chloride	5538-94-3	1.125 %

4. FIRST-AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Remove contact lenses after the first 5 minutes and continue flushing.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned. Wash with soap and water.

Inhalation: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY. Keep warm and quiet.

Ingestion: If swallowed, call a physician immediately. 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. Have person sip a glass of water if able to swallow.

Note to Physicians:

Probable mucosal damage may contraindicate the use of gastric lavage.

Most Important Symptoms/Effects:

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: permanent eye damage. blindness.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Brief contact may cause: irritation. defatting. Exposures not promptly washed off may lead to toxic effects similar to ingestion.

Skin Absorption: No data available.

Inhalation: May be corrosive to the respiratory tract. Severe irritation and burns may result. Vapors or mists may irritate: throat. respiratory tract. High vapor concentrations may cause: central nervous system effects. Symptoms may include: headache. dizziness. drowsiness. May be fatal if inhaled.

Ingestion: May be corrosive to the gastrointestinal tract. Severe irritation and burns may result. May cause: gastrointestinal irritation. nausea. vomiting. diarrhea. death.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Dry chemical. Foam. Carbon dioxide. Water fog. DO NOT USE: Direct water stream.

Fire Fighting Methods: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers. Do not use direct water stream. May spread fire.

Fire and Explosion Hazards: Material will burn in fire, releasing toxic vapors. Contact with strong oxidizing agents may cause fire.

Hazardous Combustion Products: Irritating and/or toxic gases.

6. ACCIDENTAL RELEASE MEASURES

Spill Clean-Up Procedures: CORROSIVE MATERIAL. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit. Keep out of low areas. Shut off source of leak if safe to do so. Contain spill, place into drums for proper disposal. Soak up residue with non-flammable 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. Prevent entry into basements, low areas, or confined areas. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor, but may not prevent ignition in closed spaces. Use non-sparking tools and equipment. CAUTION: Spilled material may be slippery. Do not touch or walk through spilled material.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Empty containers retain product residue (vapor, dust, or liquid) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other source of ignition. They may explode and cause injury or death. Avoid dust or mist formation. Ground all equipment and containers before opening to prevent accumulation of static charge. Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools.

Storage: CORROSIVE MATERIAL. Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Do not freeze. Do not store near heat or open flames. Static electricity may accumulate and create a fire hazard. Ground fixed equipment. Bond and ground transfer containers and equipment. See Section 10 for incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

<u>Component</u>	<u>Limits</u>
Ethyl Alcohol	1000 ppm TWA; 1900 mg/m3 TWA

ACGIH Exposure Guidelines:

<u>Component</u>	<u>Limits</u>
Ethyl Alcohol	1000 ppm STEL

Engineering Controls: General room ventilation and local exhaust are required. Use explosion-proof ventilation equipment. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Eye/Face Protection: Wear chemical safety goggles while handling this product. Wear additional eye protection such as a face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Impervious. Rubber. Neoprene.

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. If exposure limits are exceeded, wear: NIOSH-Approved air-purifying respirator with: Organic vapor cartridge. 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 Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Chemical safety shoes. Rubber boots. Impervious clothing. Protective clothing.

ICE MACHINE SANITIZER

Product ID: MI089600

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.
Color: Clear. Colorless.
Odor: No odor.
Odor Threshold: N.D.
pH: 8.00 (as is)
Freezing Point (deg. F): N.D.
Melting Point (deg. F): N.D.
Initial Boiling Point or Boiling Range: N.D.
Flash Point: None when heated to 100 Deg. C
Flash Point Method: COC.
Evaporation Rate (nBuAc = 1): N.D.
Flammability (solid, gas): N.D.
Lower Explosion Limit: N.A.
Upper Explosion Limit: N.A.
Vapor Pressure (mm Hg): N.D.
Vapor Density (air=1): N.D.
Specific Gravity or Relative Density: 0.990 @ 25 Deg. C
Solubility in Water: Complete
Partition Coefficient (n-octanol/water): N.D.
Autoignition Temperature: No Data
Decomposition Temperature: N.D.
Viscosity: N.D.
% Volatile (wt%): ~ 93
VOC (wt%): 0.75-1.5
VOC (lbs/gal): 0.06-0.12
Fire Point: N.D.

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions. Contact with strong oxidizing agents may cause fire.

Conditions to Avoid: Avoid contact with heat, sparks, electric arcs, other hot surfaces, and open flames. Avoid other ignition sources. Keep away from strong oxidizing agents.

Incompatible Materials: Strong oxidizing agents. Reducing agents.

Hazardous Decomposition Products: Carbon monoxide. Carbon dioxide. Hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

<u>Component</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Inhalation LC50</u>
Ethyl Alcohol	No Data	No Data	4H Rat: 124.7 mg/L

Routes of Exposure: Eyes. Skin. Inhalation. Ingestion. Absorption.

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: permanent eye damage. blindness.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Brief contact may cause: irritation. defatting. Exposures not promptly washed off may lead to toxic effects similar to ingestion.

ICE MACHINE SANITIZER

Product ID: MI089600

Skin Absorption: No data available.

Inhalation: May be corrosive to the respiratory tract. Severe irritation and burns may result. Vapors or mists may irritate: throat. respiratory tract. High vapor concentrations may cause: central nervous system effects. Symptoms may include: headache. dizziness. drowsiness. May be fatal if inhaled.

Ingestion: May be corrosive to the gastrointestinal tract. Severe irritation and burns may result. May cause: gastrointestinal irritation. nausea. vomiting. diarrhea. death.

Medical Conditions Aggravated by Exposure to Product: No data available.

Other: None known.

Cancer Information:

This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: No data available.

Chemical Fate Information: No data available.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: N.A.

Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations. Since emptied containers retain product residue, follow label warnings even after container is emptied. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition.

14. TRANSPORT INFORMATION

DOT (Department of Transportation):

Identification Number: UN1903
Proper Shipping Name: Disinfectants, Liquid, Corrosive N.O.S. (Quaternary Ammonium Compound)
Hazard Class: 8
Packing Group: III
Label Required: CORROSIVE

Note: The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors. In the United States, it may be possible to reclassify this material as a Consumer Commodity ORM-D based on 49 CFR 173.154 (b)(c).

15. REGULATORY INFORMATION

TSCA Inventory Status: This product or all components of this product are listed on the EPA/TSCA Inventory of Chemical Substances.

SARA Title III Section 311/312 Category Hazards:

<u>Immediate (Acute)</u> Yes	<u>Delayed (Chronic)</u> No	<u>Fire Hazard</u> No	<u>Pressure Release</u> No	<u>Reactive</u> No			
Regulated Components:	CAS	CERCLA	SARA	SARA	U.S.	WI	Prop
Component	Number	RQ	EHS	313	HAP	HAP	65
Ethyl Alcohol	64-17-5	No	No	No	No	No	Yes*

Note: *Ethyl alcohol in alcoholic beverages is listed.

FIFRA Information:

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.

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing spray mist. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves and protective clothing when handling. 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.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. 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 into 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

Do not use or store near heat or open flame. Do not mix with oxidizers, anionic soaps and detergents.

16. OTHER INFORMATION

Hazard Rating System

Health: 3
Flammability: 0
Reactivity: 0
* = Chronic Health Hazard

NFPA Rating System

Health: 3
Flammability: 0
Reactivity: 0
Special Hazard: None

MSDS Abbreviations

N.A. = Not Applicable
N.D. = Not Determined
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
C = Ceiling Limit
N.E./Not Estab. = Not Established

MSDS Prepared by: CSH

Reason for Revision: New format. Changes made throughout the MSDS.

Revised: 02-11-2014

Replaces: 01-04-2012

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 MANITOWOC ICE assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Ice-Off® Windshield Spray De-Icer (aerosol)

Product Number (s): 05346

Product Use: melt ice on windshields

Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.

885 Louis Drive

Warminster, PA 18974

www.crcindustries.com

1-215-674-4300 (General)

(800) 521-3168 (Technical)

(800) 272-4620 (Customer Service)

In Canada:

CRC Canada Co.

2-1246 Lorimar Drive

Mississauga, Ontario L5S 1R2

www.crc-canada.ca

1-905-670-2291

In Mexico:

CRC Industries Mexico

Av. Benito Juárez 4055 G

Colonia Orquídea

San Luís Potosí, SLP CP 78394

www.crc-mexico.com

52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: POISON. Flammable. Vapor Harmful. May be Fatal or Cause Blindness if Swallowed. Contents Under Pressure.

Appearance & Odor: Colorless liquid, characteristic pungent odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause mild irritation. Symptoms include stinging, tearing, and redness.

SKIN: May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns. Passage of this material into the body through the skin is possible, and may add to toxic effects from breathing or swallowing.

INHALATION: Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful, and may cause irritation of airways, dizziness, drowsiness, nausea, and vomiting.

INGESTION: Swallowing this material may be harmful. Symptoms may include nausea, vomiting, dizziness, leg cramps, pain in the abdomen or lower back, blurred vision, shortness of breath, visual impairment (including blindness), coma and death.

CHRONIC EFFECTS: Overexposure to this material may cause liver abnormalities, central nervous system damage, and visual impairment.

TARGET ORGANS: Liver, kidneys, pancreas, heart, lungs, and brain

Medical Conditions Aggravated by Exposure: Pre-existing disorders of the following organs: Skin, lung, liver, kidney central nervous system, pancreas, and heart.

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Methanol	67-56-1	85 - 95
Water	7732-18-5	3 - 8
Propylene glycol	57-55-6	< 1
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. 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.
<i>Note to Physicians:</i>	Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 µg/dl. Methanol is effectively removed by hemodialysis. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and may be used as an antidote in the treatment of methanol poisoning.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)).

Flash Point:	54°F / 12°C (TCC)	Upper Explosive Limit:	36
Autoignition Temperature:	725°F / 385°C	Lower Explosive Limit:	7.3

Fire and Explosion Data:

Suitable Extinguishing Media: Dry chemical, alcohol-resistant foam, carbon dioxide (CO₂)

Products of Combustion: Carbon dioxide and carbon monoxide

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode. Vapors may accumulate in a confined space and create a flammable atmosphere.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. 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.

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. If run-off occurs, notify the proper authorities as required, that a spill has occurred.

Methods for Containment & Clean-up: Eliminate all ignition sources. 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: Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C 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	
Methanol	200	NE	200 (s)	250 (s)	NE	NE	ppm
Water	NE	NE	NE	NE	NE		
Propylene glycol	NE	NE	NE	NE	10	AIHA	mg/m ³
Carbon dioxide	5000	30000(v)	5000	30000	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

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. Air monitoring is needed to determine actual employee exposure levels. 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 or natural rubber. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
 Color: colorless
 Odor: characteristic pungent odor
 Odor Threshold: ND
 Specific Gravity: 0.809
 Initial Boiling Point: 148.5°F / 65°C
 Freezing Point: ND
 Vapor Pressure: 16.93 kPa @ 77°F / 25°C
 Vapor Density: 1.1 (air = 1)
 Evaporation Rate: fast
 Solubility: completely soluble in water
 Coefficient of water/oil distribution: ND
 pH: NA
 Volatile Organic Compounds: wt %: 87.8 g/L: 710.3 lbs./gal: 5.92

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition

Incompatible Materials: Hypochlorites, peroxides, reactive metals such as aluminum and magnesium, sodium, strong acids, strong bases, strong oxidizing agents, zinc

Hazardous Decomposition Products: Carbon dioxide and carbon monoxide

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 Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Methanol	5628 mg/kg	15,800 mg/kg	64,000 ppm/4H
Water	> 90 mL/kg	No data	No data
Propylene glycol	20 g/kg	20,000 mg/kg	4.1 mg/L/8H
Carbon dioxide	No data	No data	470,000 ppm/30M

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant eye, skin	Sensitizer
Methanol	No	No	No	No	Unknown
Water	No	No	No	No	No
Propylene glycol	No	No	No	No	No
Carbon dioxide	No	No	No	No	No

<u>Reproductive Toxicity:</u>	No information available
<u>Teratogenicity:</u>	No information available
<u>Mutagenicity:</u>	No information available
<u>Synergistic Effects:</u>	No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity:	No information available
Persistence / Degradability:	No information available
Bioaccumulation / Accumulation:	No information available
Mobility in Environment:	No information available

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is a RCRA hazardous waste for the characteristic of ignitability with the following potential waste codes: D001, U154. (See 40 CFR Part 261.20 – 261.33)
Empty aerosol containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground):	UN1950, Aerosols, flammable, 2.1, Limited Quantity**
ICAO/IATA (air):	UN1950, Aerosols, flammable, 2.1, Limited Quantity
IMO/IMDG (water):	UN1950, Aerosols, 2.1, Limited Quantity
Special Provisions:	**This product can be classified and labeled as 'Consumer Commodity, ORM-D' for domestic ground shipping.

Section 15: Regulatory Information

U.S. Federal Regulations:

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: 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

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:
Methanol (<88%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): Methanol

Occupational Safety and Health Administration (OSHA):

This product is regulated under the Hazard Communication Standard.

U.S. 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: Methanol

Consumer Products VOC Regulations: None

State Right to Know:

New Jersey:	67-56-1, 57-55-6, 124-38-9
Pennsylvania:	67-56-1, 57-55-6, 124-38-9
Massachusetts:	67-56-1, 57-55-6, 124-38-9
Rhode Island :	67-56-1, 57-55-6, 124-38-9

Canadian Regulations:**Controlled Products 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.

WHMIS Hazard Class: A, B5, D2B

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

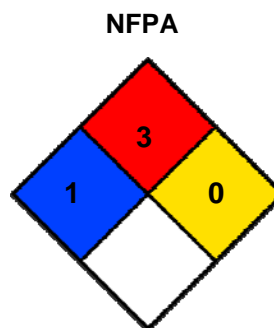
European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	1
Flammability:	3
Reactivity:	0
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 638
Revision Date: 11/21/2013

Changes since last revision: Section 15: Prop 65

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. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose

NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

SECTION 1. IDENTIFICATION

Product name : HILLYARD® IHS Foam Sanitizer

Product code : HIL0125503; HIL0125603

Manufacturer or supplier's details

Company name of supplier : HILLYARD INDUSTRIES, INC.

Address : 302 North Fourth Street
St. Joseph, MO 64501

Telephone : 1-816-233-1321 EXT 8285

Emergency telephone : 1-800-424-9300

Recommended use of the chemical and restrictions on use

Recommended use : Hand Sanitizer

Restrictions on use : This is a personal care or cosmetic product that is safe for consumers and other users under normal and reasonably foreseeable use. Cosmetics and consumer products, specifically defined by regulations around the world, are exempt from the requirement of an SDS for the consumer. While this material is not considered hazardous, this SDS contains valuable information critical to the safe handling and proper use of the product for industrial workplace conditions as well as unusual and unintended exposures such as large spills. This SDS should be retained and available for employees and other users of this product. For specific intended-use guidance, please refer to the information provided on the package or instruction sheet.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Eye irritation : Category 2A

GHS Label element

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H226 Flammable liquid and vapor.

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Vapors may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
Ethanol	64-17-5	>= 50 - < 70
Propan-2-ol	67-63-0	>= 1 - < 5

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : Wash with water and soap as a precaution.
Get medical attention if symptoms occur.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

	for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.
If swallowed	: If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	: Causes serious eye irritation.
Protection of first-aiders	: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.
Notes to physician	: Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	: Water spray Alcohol-resistant foam Dry chemical Carbon dioxide (CO2)
Unsuitable extinguishing media	: High volume water jet
Specific hazards during fire fighting	: Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapors may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.
Hazardous combustion products	: Carbon oxides Silicon oxides
Specific extinguishing methods	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.
---	---

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

- Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapors/mists with a water spray jet.
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 absorbent.
Local or national 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 regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use with local exhaust ventilation.
Use only in an area equipped with explosion proof exhaust ventilation.
- Advice on safe handling : Do not breathe vapors or spray mist.
Do not swallow.
Do not get in eyes.
Avoid prolonged or repeated contact with skin.
Handle in accordance with good industrial hygiene and safety practice.
Non-sparking tools should be used.
Keep container tightly closed.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Keep away from heat and sources of ignition.

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1 Revision Date: 02/18/2015 MSDS Number: 36539-00002 Date of last issue: 12/11/2014
Date of first issue: 12/11/2014

Materials to avoid : Do not store with the following product types:
Strong oxidizing agents
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures which in contact with water emit flammable gases
Explosives
Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Ethanol	64-17-5	TWA	1,000 ppm 1,900 mg/m3	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m3	OSHA Z-1
		STEL	1,000 ppm	ACGIH
Propan-2-ol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m3	NIOSH REL
		ST	500 ppm 1,225 mg/m3	NIOSH REL
		TWA	400 ppm 980 mg/m3	OSHA Z-1

Biological occupational exposure limits

Ingredients	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentratio n	Basis
Propan-2-ol	67-63-0	Acetone	Urine	End of shift at end of work- week	40 mg/l	ACGIH BEI

Engineering measures : Minimize workplace exposure concentrations.
Use only in an area equipped with explosion proof exhaust ventilation.
Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection	
Material	: Impervious gloves
Material	: Flame retardant gloves
Remarks	: Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
Eye protection	: Wear the following personal protective equipment: Safety goggles
Skin and body protection	: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: Flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Hygiene measures	: Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Color	: clear, colorless, yellow
Odor	: fruity
Odor Threshold	: No data available
pH	: 5.5 - 9.0
Melting point/freezing point	: No data available

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

Initial boiling point and boiling range	: 75 °C
Flash point	: 25.5 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Density	: 0.895 g/cm3
Solubility(ies) Water solubility	: soluble
Partition coefficient: n-octanol/water	: Not applicable
Autoignition temperature	: No data available
Decomposition temperature	: The substance or mixture is not classified self-reactive.
Viscosity Viscosity, kinematic	: 10 - 20 mm2/s (20 °C)
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Flammable liquid and vapor. Vapors may form explosive mixture with air. Can react with strong oxidizing agents.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: Oxidizing agents
Hazardous decomposition products	: No hazardous decomposition products are known.

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Ingredients:

Ethanol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 124.7 mg/l
Exposure time: 4 h
Test atmosphere: vapor

Propan-2-ol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 72.6 mg/l
Exposure time: 4 h
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Result: No skin irritation

Ingredients:

Ethanol:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Propan-2-ol:

Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Ingredients:

Ethanol:

Species: Rabbit
Result: Irritation to eyes, reversing within 21 days
Method: OECD Test Guideline 405

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

Propan-2-ol:

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

Product:

Assessment: Does not cause skin sensitization.

Ingredients:

Ethanol:

Test Type: Local lymph node assay (LLNA)

Routes of exposure: Skin contact

Species: Mouse

Result: negative

Propan-2-ol:

Test Type: Buehler Test

Routes of exposure: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: negative

Germ cell mutagenicity

Not classified based on available information.

Ingredients:

Ethanol:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Ingestion
Result: negative

Propan-2-ol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Carcinogenicity

Not classified based on available information.

Ingredients:

Propan-2-ol:

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

Species: Rat
Application Route: inhalation (vapor)
Exposure time: 104 weeks
Method: OECD Test Guideline 451
Result: negative

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient 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 ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Ingredients:

Ethanol:

Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Mouse Application Route: Ingestion Method: OECD Test Guideline 416 Result: negative
----------------------	--

Propan-2-ol:

Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative
----------------------	---

Effects on fetal development	: Test Type: Embryo-fetal development Species: Rat Application Route: Ingestion Result: negative
------------------------------	---

STOT-single exposure

Not classified based on available information.

Ingredients:

Propan-2-ol:

Assessment: May cause drowsiness or dizziness.

STOT-repeated exposure

Not classified based on available information.

Repeated dose toxicity

Ingredients:

Ethanol:

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

Species: Rat
NOAEL: 2,400 mg/kg
Application Route: Ingestion
Exposure time: 2 y

Propan-2-ol:

Species: Rat
NOAEL: 5000 ppm
Application Route: inhalation (vapor)
Exposure time: 104 w
Method: OECD Test Guideline 413

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:

Ethanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 9.6 mg/l
Exposure time: 9 d

Toxicity to bacteria : EC50 (Photobacterium phosphoreum): 32.1 mg/l
Exposure time: 0.25 h

Propan-2-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 10,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h

Toxicity to algae : ErC50 (Scenedesmus quadricauda (Green algae)): > 1,800 mg/l
Exposure time: 8 d

Toxicity to bacteria : EC50 (Pseudomonas putida): > 1,050 mg/l
Exposure time: 16 h

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

Persistence and degradability

Ingredients:

Ethanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 84 %
Exposure time: 20 d

Propan-2-ol:

Biodegradability : Result: rapidly degradable

Bioaccumulative potential

Ingredients:

Ethanol:

Partition coefficient: n-octanol/water : log Pow: -0.35

Propan-2-ol:

Partition coefficient: n-octanol/water : log Pow: 0.05

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG

UN number	: UN 1987
Proper shipping name	: ALCOHOLS, N.O.S. (Ethanol, Propan-2-ol)
Class	: 3
Packing group	: III
Labels	: 3

IATA-DGR

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

UN/ID No.	: UN 1987
Proper shipping name	: Alcohols, n.o.s. (Ethanol, Propan-2-ol)
Class	: 3
Packing group	: III
Labels	: Flammable Liquids
Packing instruction (cargo aircraft)	: 366
Packing instruction (passenger aircraft)	: 355

IMDG-Code

UN number	: UN 1987
Proper shipping name	: ALCOHOLS, N.O.S. (Ethanol, Propan-2-ol)
Class	: 3
Packing group	: III
Labels	: 3
EmS Code	: F-E, S-D
Marine pollutant	: no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	: UN 1987
Proper shipping name	: ALCOHOLS, N.O.S.
Class	: 3
Packing group	: III
Labels	: FLAMMABLE LIQUID
ERG Code	: 127
Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION

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	: Fire Hazard Acute Health Hazard
-----------------------------	--------------------------------------

SARA 302	: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
-----------------	---

SAFETY DATA SHEET

HILLYARD® IHS Foam Sanitizer

Version 1.1	Revision Date: 02/18/2015	MSDS Number: 36539-00002	Date of last issue: 12/11/2014 Date of first issue: 12/11/2014
----------------	------------------------------	-----------------------------	---

SARA 313

: The following components are subject to reporting levels established by SARA Title III, Section 313:

Propan-2-ol	67-63-0	3.013 %
-------------	---------	---------

US State Regulations

Pennsylvania Right To Know

Ethanol	64-17-5	50 - 70 %
Water	7732-18-5	30 - 50 %
Propan-2-ol	67-63-0	1 - 5 %

New Jersey Right To Know

Ethanol	64-17-5	50 - 70 %
Water	7732-18-5	30 - 50 %
Propan-2-ol	67-63-0	1 - 5 %
Dimethyl Siloxane, Dimethyl(propyl(polyethylene oxide))hydroxy)siloxy-terminated	102783-01-7	1 - 5 %

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:

REACH	: All ingredients (pre-)registered or exempt.
TSCA	: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.
DSL	: All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).
AICS	: All ingredients listed or exempt.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), NECSI (Taiwan), TSCA (USA)

SAFETY DATA SHEET

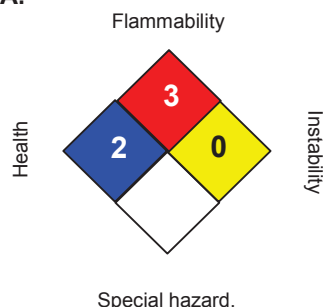
HILLYARD® IHS Foam Sanitizer

Version	Revision Date:	MSDS Number:	Date of last issue: 12/11/2014
1.1	02/18/2015	36539-00002	Date of first issue: 12/11/2014

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	: ACGIH - Biological Exposure Indices (BEI)
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	: 8-hour, time-weighted average
ACGIH / STEL	: Short-term exposure limit
NIOSH REL / TWA	: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-1 / TWA	: 8-hour time weighted average

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 02/18/2015

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 is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8

Material Safety Data Sheet



CARGILLE IMMERSION OIL B

Revised: 11/18/2011
Replaces: 10/13/2011
Printed: 06/21/2013

Carolina Biological Supply Company

2700 York Rd | Burlington, NC 27215 • to order: 800.334.5551 • for support: 800.227.1150

CAROLINA
www.carolina.com

Section 1 - Product Description

Product Name: Cargille Immersion Oil Types A and B
Product Code(s): 85-2980, 85-2982, 85-2984, 85-3000, 85-3002, 85-3004, 85-3010, 85-3012
Size: 1, 4, and 16 oz.
Chemical Name: Does Not Apply
CAS Number: See Section 3
Formula: See Section 3
Synonyms: None listed
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F) **Chemtrec** 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 - Hazard Identification

Emergency Overview: Harmful: danger of serious damage to health by prolonged exposure through inhalation. Use only in well-ventilated areas. Keep at temperature not exceeding ... OC (to be specified by the manufacturer). Avoid exposure - obtain special instructions before use.

Potential Health Effects:

Eyes: May cause irritation.

Ingestion: May cause gastrointestinal discomfort.

Skin: May cause irritation to skin.

Inhalation: May cause irritation to respiratory tract.

Section 3 - Composition / Information on Ingredients

Principal Hazardous Components: Trade secret of Cargille Corp. - common names list

TLV units: Hydrogenated Terphenyl: ACGIH-TLV .5 ppm (TWA)

Natural Hydrocarbons: ACGIH-TLV 5 mg/m³ (TWA)

Polybutenes: ACGIH-TLV 5 mg/m³ (TWA)

Terphenyl: ACGIH-TLV 5 mg/m³ (TWA)

PEL units: Hydrogenated Terphenyl: OSHA-PEL .5 ppm (TWA)

Natural Hydrocarbons: OSHA-PEL 5 mg/m³ (Mist) (TWA)

Polybutenes: OSHA-PEL 5 mg/m³ (Mist) (TWA)

Terphenyl: OSHA-PEL 1 ppm (TWA)

Section 4 - First Aid Measures

Emergency and First Aid Procedures:

Eyes - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin - After contact with skin, wash immediately with plenty of water.

Ingestion - If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Inhalation - In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 5 - Firefighting Procedures

Flash Point (Method Used): 163 °C (CC)

NFPA Rating:

Health: 0

Fire: 0

Reactivity: 0

Extinguisher Media: Use dry chemical, CO₂ or appropriate foam.

Flammable Limits in Air % by Volume: N/A

Autoignition Temperature: N/A

Special Firefighting Procedures: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: N/A

Section 6 - Spill or Leak Procedures

Steps to Take 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.

Section 7 - Special Precautions

Precautions to Take in Handling or Storing: Avoid direct sunlight and heat.

Avoid creating and inhaling dust.

Keep at temperature not exceeding ... °C (to be specified by the manufacturer). Keep container tightly closed in a cool, well-ventilated place.

Section 8 - Protection Information

Respiratory Protection (Specify Type): None needed under normal conditions of use with adequate ventilation. A NIOSH/MSHA chemical cartridge respirator should be worn if PEL or TLV is exceeded.

Ventilation:

Local Exhaust: Yes

Mechanical(General): Yes

Special: No

Other: No

Protective Gloves: Natural rubber, Neoprene, PVC or equivalent.

Eye Protection: Splash proof chemical safety goggles should be worn.

Other Protective Clothing or Equipment: Lab coat, apron, eye wash, safety shower.

Section 9 - Physical Data

Molecular Weight: N/A

Boiling Point: 340 °C

Vapor Density(Air=1): 1 at 760mmHg

Percent Volatile by Volume: N/A

Solubility in Water: Practically Insoluble

Melting Point: < 0 °C

Vapor Pressure: <0.1 at 23 °C

Specific Gravity (H₂O=1): .9 at 23 °C

Evaporation Rate (BuAc=1): 1

Appearance and Odor: Yellow to brown liquid; slight sweet

odor.

Section 10 - Reactivity Data

Stability: Stable

Conditions to Avoid: None Known

Incompatibility (Materials to Avoid): Oxidizers, Keep away from heat.

Hazardous Decomposition Products: N/A

Hazardous Polymerization: Will not occur

Section 11 - Toxicity Data

Toxicity Data: (Hydrogenated Terphenyls) orl-rat LD50 10200 mg/kg
(Terphenyl) orl-rat LD50 13200 mg/kg
(Polybutenes) ihl-rat TCLo 700 mg/m3/7h/2w

Effects of Overexposure:

Acute: See Section 2

Chronic: Not listed as a carcinogen by IARC, NTP or OSHA.

Conditions Aggravated by Overexposure: N/A

Target Organs: N/A

Primary Route(s) of Entry: N/A

Section 12 - Ecological Data

EPA Waste Numbers: N/A

Section 13 - Disposal Information

Waste Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Section 14 - Transport Information

DOT Proper Shipping Name: N/A

Section 15 - Regulatory Information

EPA TSCA Status: On TSCA Inventory

Hazard Category for SARA Section 311/312 Reporting: Acute

Name List:

No

Chemical Category:

No

CERCLA Section 103 RQ(lb.): No

RCRA Section 261.33: No

Section 16 - Additional Information

The information provided in this Material Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the Material Safety Data Sheet. Any employer must carefully assess the applicability of any information contained herein in regards to the particular use to which the employer puts the material.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists
CAS Number	Chemical Services Abstract Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency of Research on Cancer
N/A	Not Available
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Dry Graphite Lube

Product Number (s): 03094

Product Use: Dry film lubricant

Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.

885 Louis Drive

Warminster, PA 18974

www.crcindustries.com

1-215-674-4300 (General)

(800) 521-3168 (Technical)

(800) 272-4620 (Customer Service)

In Canada:

CRC Canada Co.

2-1246 Lorimar Drive

Mississauga, Ontario L5S 1R2

www.crc-canada.ca

1-905-670-2291

In Mexico:

CRC Industries Mexico

Av. Benito Juárez 4055 G

Colonia Orquídea

San Luís Potosí, SLP CP 78394

www.crc-mexico.com

52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Extremely Flammable. Harmful or Fatal if Swallowed.
Vapor Harmful. Eye and Skin Irritant. Contents Under Pressure.
Appearance & Odor: Black viscous liquid, solvent odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause eye irritation, including redness, itching or burning sensation.

SKIN: Prolonged or repeated exposure may cause irritation. Symptoms of overexposure include redness, itching and burning of skin.

INHALATION: May cause irritation of the upper respiratory system or nervous system depression (headache, dizziness, nausea and loss of coordination). Extreme overexposure may result in unconsciousness and possibly death.

INGESTION: Ingestion of aerosol product is not expected during normal use.

CHRONIC EFFECTS: Prolonged overexposure may cause adverse effects to the liver and urinary systems.

TARGET ORGANS: liver and urinary systems

Medical Conditions Aggravated by Exposure: Unknown

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Propane	74-98-6	10 – 20
Butane	106-97-8	10 – 20
Heptane	142-82-5	40 – 50
Toluene	108-88-3	< 2
2-Propanol	67-63-0	20 - 30
Graphite	7782-42-5	< 2

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: Do NOT induce vomiting. Get medical attention immediately.

Note to Physicians: Treat symptomatically.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is extremely flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)).

Flash Point: < 0°F / -17°C
Autoignition Temperature: ND

Upper Explosive Limit: ND
Lower Explosive Limit: ND

Fire and Explosion Data:

Suitable Extinguishing Media: Carbon dioxide, dry chemical, foam

Products of Combustion: Carbon dioxide and carbon monoxide

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode. Vapors may accumulate in a confined space and create a flammable atmosphere.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. 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.

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: Remove all 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: 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 ventilate. Do not smoke. Extinguish all flames, pilot lights, and heaters. Turn off stoves, electronic tools and other appliances, and any other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C to prevent cans from rupturing. Store out of reach of children

Aerosol Storage Level: III

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
Propane	1000	NE	1000	NE	NE		ppm
Butane	800	NE	1000	NE	NE		ppm
Heptane	500	NE	400	500	NE		ppm
Toluene	100	150	20	NE	NE		ppm
2-Propanol	400	NE	200	400	NE		ppm
Graphite	2.5	NE	2	NE	NE		mg/m ³
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

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. Air monitoring is needed to determine actual employee exposure levels. 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 or neoprene. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid

Color: Black

Odor: solvent odor

Odor Threshold: ND

Specific Gravity: 0.66

Initial Boiling Point: ND

Freezing Point: ND

Vapor Pressure: ND

Vapor Density: > 1 (air = 1)

Evaporation Rate: fast

Solubility: ND

Coefficient of water/oil distribution: NA

pH: NA

Volatile Organic Compounds: wt %: 98.8 g/L: 652.1 lbs./gal: 5.43

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition; temperature extremes

Incompatible Materials: None known

Hazardous Decomposition Products: Carbon dioxide and carbon monoxide

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 Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Propane	No data	No data	No data
Butane	No data	No data	658,000 mg/m ³ /4H
Heptane	No data	No data	103 g/m ³ /4H
Toluene	636 mg/kg	12,125 mg/kg	8000 ppm/4H
2-Propanol	4720 mg/kg	12,800 mg/kg	17,000 ppm/4H
Graphite	< 10,000 mg/kg	No data	No data

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
Propane	No	No	No	No	No
Butane	No	No	No	No	No
Heptane	No	No	No	skin	Unknown
Toluene	No	No	No	skin	No
2-Propanol	No	No	No	eye	No
Graphite	No	No	No	No	Unknown

<u>Reproductive Toxicity:</u>	No information available
<u>Teratogenicity:</u>	No information available
<u>Mutagenicity:</u>	No information available
<u>Synergistic Effects:</u>	No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity:	No information available
Persistence / Degradability:	No information available
Bioaccumulation / Accumulation:	No information available
Mobility in Environment:	No information available

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is a RCRA hazardous waste for the characteristic of ignitability with a waste code of D001. (See 40 CFR Part 261.20 – 261.33)
Aerosol containers should be fully emptied and depressurized before disposal. Empty aerosol containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground):	UN1950, Aerosols, flammable, 2.1, Limited Quantity**
ICAO/IATA (air):	UN1950, Aerosols, flammable, 2.1, Limited Quantity
IMO/IMDG (water):	UN1950, Aerosols, 2.1, Limited Quantity
Special Provisions:	**This product can be classified and labeled as 'Consumer Commodity, ORM-D' for domestic ground shipping until December 31, 2020. If shipping as limited quantity by ground, note that shipping papers are not required.

Section 15: Regulatory Information

U.S. Federal Regulations:

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: Toluene (1,000 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	Yes

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 (1%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): Toluene

Occupational Safety and Health Administration (OSHA):

This product is regulated under the Hazard Communication Standard.

U.S. 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

Consumer Products VOC Regulations: This product is not regulated.

State Right to Know:

New Jersey: 74-98-6, 106-97-8, 142-82-5, 108-88-3, 67-63-0
 Pennsylvania: 74-98-6, 106-97-8, 142-82-5, 108-88-3, 67-63-0, 7782-42-5
 Massachusetts: 74-98-6, 106-97-8, 142-82-5, 108-88-3, 67-63-0
 Rhode Island : 74-98-6, 106-97-8, 142-82-5, 108-88-3, 67-63-0, 7782-42-5

Canadian Regulations:

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

WHMIS Hazard Class: A, B5, D2A, D2B

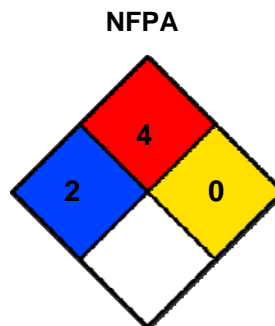
European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	2
Flammability:	4
Reactivity:	0
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 03094
Revision Date: 01/23/2014

Changes since last revision: MSDS reformatted to meet the requirements of the Canadian Controlled Products Regulations.

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. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH:	American Conference of Governmental Industrial Hygienists	NA:	Not Applicable
CAS:	Chemical Abstract Service	ND:	Not Determined
CFR:	Code of Federal Regulations	NIOSH:	National Institute of Occupational Safety & Health
DOT:	Department of Transportation	NFPA:	National Fire Protection Association
DSL:	Domestic Substance List	NTP:	National Toxicology Program
g/L:	grams per Liter	OSHA:	Occupational Safety and Health Administration
HMIS:	Hazardous Materials Identification System	PMCC:	Pensky-Martens Closed Cup
IARC:	International Agency for Research on Cancer	PPE:	Personal Protection Equipment
IATA:	International Air Transport Association	ppm:	Parts per Million
ICAO:	International Civil Aviation Organization	RoHS:	Restriction of Hazardous Substances
IMDG:	International Maritime Dangerous Goods	STEL:	Short Term Exposure Limit
IMO:	International Maritime Organization	TCC:	Tag Closed Cup
lbs./gal:	pounds per gallon	TWA:	Time Weighted Average
LC:	Lethal Concentration	WHMIS:	Workplace Hazardous Materials Information System
LD:	Lethal Dose		



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Food Grade Machine Oil (aerosol)

Product Number (s): 03081

Product Use: machine oil / lubricant

Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.

885 Louis Drive

Warminster, PA 18974

www.crcindustries.com

1-215-674-4300 (General)

(800) 521-3168 (Technical)

(800) 272-4620 (Customer Service)

In Canada:

CRC Canada Co.

2-1246 Lorimar Drive

Mississauga, Ontario L5S 1R2

www.crc-canada.ca

1-905-670-2291

In Mexico:

CRC Industries Mexico

Av. Benito Juárez 4055 G

Colonia Orquídea

San Luís Potosí, SLP CP 78394

www.crc-mexico.com

52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Harmful or Fatal if Swallowed. Contents Under Pressure.

Appearance & Odor: Clear liquid, no odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: Slightly irritating but does not injure eye tissue.

SKIN: Frequent or prolonged contact may irritate and cause dermatitis. Low order of toxicity.

INHALATION: High vapor concentrations (attainable at elevated temperatures well above ambient) are irritating to the eyes and the respiratory tract, and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects.

INGESTION: Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.

CHRONIC EFFECTS: None known

TARGET ORGANS: None known

Medical Conditions Aggravated by Exposure: pre-existing dermatitis

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Product Name: Food Grade Machine Oil (aerosol)

Product Number (s): 03081

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Isoparaffinic hydrocarbon	64742-47-8	60 - 70
White mineral oil	8042-47-5	30 - 40
Carbon dioxide	124-38-9	1 - 3

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: If swallowed, do NOT induce vomiting. Keep at rest. Get prompt medical attention.

Note to Physicians: This product is an aspiration hazard.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is not flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)). This product does not exhibit a flame extension or a flashback.

Flash Point:	204°F / 95.6°C (TCC)	Upper Explosive Limit:	4.9
Autoignition Temperature:	482°F / 250°C	Lower Explosive Limit:	0.5

Fire and Explosion Data:

Suitable Extinguishing Media: Foam, dry chemical, or water spray

Products of Combustion: Oxides of carbon

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. 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.

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: 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.

Product Name: Food Grade Machine Oil (aerosol)

Product Number (s): 03081

Section 7: Handling and Storage

Handling Procedures: Do not use near an open flame, heat, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C 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	
Isoparaffinic hydrocarbon	NE	NE	NE	NE	1200	mfr	mg/m ³
White mineral oil	5	NE	5	10	NE		mg/m ³
Carbon dioxide	5000	30000(v)	5000	30,000	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

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. Air monitoring is needed to determine actual employee exposure levels. 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 or neoprene. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: clear
Odor: none
Odor Threshold: ND
Specific Gravity: 0.818
Initial Boiling Point: 435°F / 224°C
Freezing Point: ND
Vapor Pressure: < 0.1 mmHg @ 68°F / 20°C

Product Name: Food Grade Machine Oil (aerosol)

Product Number (s): 03081

Vapor Density: > 1 (air = 1)

Evaporation Rate: very slow

Solubility: negligible in water

Coefficient of water/oil distribution: ND

pH: NA

Volatile Organic Compounds: wt %: 0 g/L: 0 lbs./gal: 0

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Temperature extremes, sources of ignition

Incompatible Materials: Strong oxidizing agents

Hazardous Decomposition Products: Oxides of carbon

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 Toxicity:

<u>Component</u>	<u>Oral LD50 (rat)</u>	<u>Dermal LD50 (rabbit)</u>	<u>Inhalation LC50 (rat)</u>
Isoparaffinic hydrocarbon	> 5 g/kg	> 2 g/kg	> 5 mg/L/4H
White mineral oil	> 5 g/kg	> 2 g/kg	> 2180 mg/m ³ /4H
Carbon dioxide	No data	No data	470,000 ppm/30M

Chronic Toxicity:

<u>Component</u>	<u>OSHA Carcinogen</u>	<u>IARC Carcinogen</u>	<u>NTP Carcinogen</u>	<u>Irritant</u>	<u>Sensitizer</u>
Isoparaffinic hydrocarbon	No	No	No	No	Unknown
White mineral oil	No	No	No	No	Unknown
Carbon dioxide	No	No	No	No	No

Reproductive Toxicity: No information available

Teratogenicity: No information available

Mutagenicity: No information available

Synergistic Effects: No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: No information available

Persistence / Degradability: No information available

Bioaccumulation / Accumulation: No information available

Mobility in Environment: No information available

Product Name: Food Grade Machine Oil (aerosol)

Product Number (s): 03081

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is not a RCRA hazardous waste. (See 40 CFR Part 261.20 – 261.33)
Empty aerosol containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): UN1950, Aerosols, nonflammable, 2.2, Limited Quantity**

ICAO/IATA (air): UN1950, Aerosols, nonflammable, 2.2, Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.2, Limited Quantity

Special Provisions: **This product can be classified and labeled as 'Consumer Commodity, ORM-D' for domestic ground shipping until January 1, 2014.
If shipping as limited quantity by ground, note that shipping papers are not required.

Section 15: Regulatory Information

U.S. Federal Regulations:

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: None

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

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:
None

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): None

Occupational Safety and Health Administration:

This product is regulated by the Hazard Communications Standard.

Product Name: Food Grade Machine Oil (aerosol)

Product Number (s): 03081

U.S. 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: None

Consumer Products VOC Regulations: This product is not regulated.

State Right to Know:

New Jersey: None

Pennsylvania: None

Massachusetts: None

Rhode Island : None

Canadian Regulations:

Controlled Products 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.

WHMIS Hazard Class: A

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

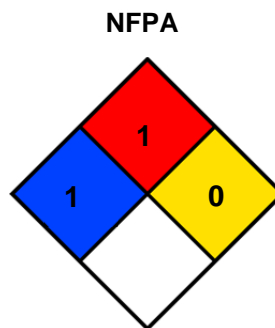
European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	1
Flammability:	1
Reactivity:	0
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick

CRC #: 555B/C

Revision Date: 8/15/2012

Changes since last revision: Section 13: disposal considerations
Section 14: transport information
Section 16: HMIS / NFPA

Product Name: Food Grade Machine Oil (aerosol)

Product Number (s): 03081

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. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose

NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Food Grade Silicone (aerosol)

Product Number (s): 03040

Product Use: Silicone-based multi-purpose lubricant

Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com
1-215-674-4300 (General)
(800) 521-3168 (Technical)
(800) 272-4620 (Customer Service)

In Canada:

CRC Canada Co.
2-1246 Lorimar Drive
Mississauga, Ontario L5S 1R2
www.crc-canada.ca
1-905-670-2291

In Mexico:

CRC Industries Mexico
Av. Benito Juárez 4055 G
Colonia Orquídea
San Luís Potosí, SLP CP 78394
www.crc-mexico.com
52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Extremely Flammable. Harmful or Fatal if Swallowed. Contents Under Pressure.
Appearance & Odor: Clear, water-white liquid with mild solvent odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause mild irritation including stinging and redness, but does not injure eye.

SKIN: Single, brief exposures may cause mild irritation. Frequent or prolonged contact may cause more severe irritation, defatting of the skin, and dermatitis.

INHALATION: High vapor concentrations are irritating to the respiratory tract and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects, including death. May cause peripheral nervous system disorder and/or damage.

INGESTION: Low order of toxicity by ingestion. Main hazard is aspiration into the lungs during swallowing or vomiting. Small amounts aspirated into the respiratory system may cause bronchopneumonia or pulmonary adema, possibly progressing to death.

CHRONIC EFFECTS: Overexposure to n-hexane may cause progressive and potentially irreversible damage to the peripheral nervous system, particularly in the arms and legs.

TARGET ORGANS: central nervous system, peripheral nervous system, respiratory system

Medical Conditions Aggravated by Exposure: skin and respiratory conditions

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Hexane isomers	64742-49-0 / 107-83-5	55 - 65
n-Hexane	110-54-3	< 2
Dimethylpolysiloxane	63148-62-9	2 - 5
1,1-Difluoroethane (HFC-152a)	75-37-6	30 - 40

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: Do NOT induce vomiting. Contact a physician immediately.

Note to Physicians: Treat symptomatically. Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is extremely flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)).

Flash Point:	< 0°F / -17°C (TCC)	Upper Explosive Limit:	9.0
Autoignition Temperature:	489°F / 254°C	Lower Explosive Limit:	1.7

Fire and Explosion Data:

Suitable Extinguishing Media: Class B fire extinguishers, dry chemical, foam or CO₂

Products of Combustion: Fumes, smoke and carbon monoxide

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode. Vapors may accumulate in a confined space and create a flammable atmosphere.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. 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. Do not spray directly on fire; product will float and could be reignited on surface of water.

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: Dike area to contain spill. Remove all sources of ignition. 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: Use proper grounding and bonding procedures for transferring materials. Do not use product near any source of ignition. Avoid contact with eyes and skin. Avoid breathing vapors. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C 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	
Hexane isomers	500(v)	1000(v)	500	1000	NE		ppm
n-Hexane	500	NE	50(s)	NE	NE		ppm
Dimethylpolysiloxane	NE	NE	NE	NE	NE		
1,1-Difluoroethane	NE	NE	NE	NE	1000	AIHA	ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

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. Air monitoring is needed to determine actual employee exposure levels. 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, PVC or Viton®. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: clear, water-white
Odor: mild solvent
Odor Threshold: ND
Specific Gravity: 0.6663
Initial Boiling Point: 140°F / 60°C
Freezing Point: < -76°F / -60°C
Vapor Pressure: 160 mmHg @ 68°F / 20°C
Vapor Density: > 1 (air = 1)
Evaporation Rate: fast
Solubility: negligible in water
Coefficient of water/oil distribution: ND
pH: NA
Volatile Organic Compounds: wt %: 60.0 g/L: 399.8 lbs./gal: 3.33

Section 10: Stability and Reactivity

Stability: Stable
Conditions to Avoid: Sources of ignition, temperature extremes
Incompatible Materials: Strong oxidizers
Hazardous Decomposition Products: Oxides of carbon
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 Toxicity:

<u>Component</u>	<u>Oral LD50 (rat)</u>	<u>Dermal LD50 (rabbit)</u>	<u>Inhalation LC50 (rat)</u>
Hexane isomers	> 5,000 mg/kg	> 2000 mg/kg	No data
n-Hexane	28,710 mg/kg	3000 mg/kg	48,000 ppm/4H
Dimethylpolysiloxane	No data	No data	No data
1,1-Difluoroethane	No data	No data	25 ppm/30M

Chronic Toxicity:

<u>Component</u>	<u>OSHA Carcinogen</u>	<u>IARC Carcinogen</u>	<u>NTP Carcinogen</u>	<u>Irritant E & S (mild)</u>	<u>Sensitizer</u>
Hexane isomers	No	No	No	E, S & R (moderate)	Unknown
n-Hexane	No	No	No	E, S & R (moderate)	Unknown
Dimethylpolysiloxane	No	No	No	E (mild)	Unknown
1,1-Difluoroethane	No	No	No	No	Unknown

E – Eye	S – Skin	R - Respiratory
---------	----------	-----------------

Reproductive Toxicity: No information available
Teratogenicity: No information available
Mutagenicity: No information available
Synergistic Effects: No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: n-hexane - 48 Hr EC50 water flea: 3.87 mg/L
96 Hr LC50 Lepomis macrochirus: 4.12 mg/L
Persistence / Degradability: No information available
Bioaccumulation / Accumulation: No information available
Mobility in Environment: No information available

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is a RCRA hazardous waste for the characteristic of ignitability with a waste code of D001 (See 40 CFR Part 261.20 – 261.33). Empty aerosol containers may be recycled. Any liquid product should be managed as a hazardous waste.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): Consumer Commodity, ORM-D
ICAO/IATA (air): Consumer Commodity, ID8000, 9
IMO/IMDG (water): Aerosols, UN1950, 2.1, Limited Quantity
Special Provisions: None

Section 15: Regulatory Information

U.S. Federal Regulations:

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: n-hexane (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	Yes

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:

n-hexane (1.8%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): n-hexane

Occupational Safety and Health Administration:

This product is regulated by the Hazard Communications Standard.

U.S. 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: None

Consumer Products VOC Regulations: This product is compliant as a Silicone-Based Multi-Purpose Lubricant.

State Right to Know:

New Jersey: 75-83-2, 109-66-0, 78-78-4, 96-37-7, 110-54-3, 79-29-8, 75-37-6

Pennsylvania: 107-83-5, 75-83-2, 110-54-3, 79-29-8, 75-37-6

Massachusetts: 107-83-5, 75-83-2, 110-54-3, 79-29-8, 75-37-6

Rhode Island : 110-54-3, 75-37-6

Canadian Regulations:Controlled Products 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.

WHMIS Hazard Class: A, B5, D2A, D2B

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

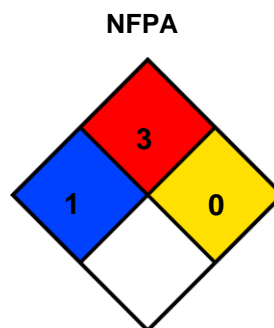
European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	1
Flammability:	3
Reactivity:	0
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick

CRC #: 519E/F

Revision Date: 12/21/2011

Changes since last revision: Section 15: WHMIS Hazard Class

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. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH:	American Conference of Governmental Industrial Hygienists	NA:	Not Applicable
CAS:	Chemical Abstract Service	ND:	Not Determined
CFR:	Code of Federal Regulations	NIOSH:	National Institute of Occupational Safety & Health
DOT:	Department of Transportation	NFPA:	National Fire Protection Association
DSL:	Domestic Substance List	NTP:	National Toxicology Program
g/L:	grams per Liter	OSHA:	Occupational Safety and Health Administration
HMIS:	Hazardous Materials Identification System	PMCC:	Pensky-Martens Closed Cup
IARC:	International Agency for Research on Cancer	PPE:	Personal Protection Equipment
IATA:	International Air Transport Association	ppm:	Parts per Million
ICAO:	International Civil Aviation Organization	RoHS:	Restriction of Hazardous Substances
IMDG:	International Maritime Dangerous Goods	STEL:	Short Term Exposure Limit
IMO:	International Maritime Organization	TCC:	Tag Closed Cup
lbs./gal:	pounds per gallon	TWA:	Time Weighted Average
LC:	Lethal Concentration	WHMIS:	Workplace Hazardous Materials Information System
LD:	Lethal Dose		



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: White Lithium Grease (aerosol)

Product Number (s): 03080

Product Use: lubricating grease

Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com
1-215-674-4300 (General)
(800) 521-3168 (Technical)
(800) 272-4620 (Customer Service)

In Canada:

CRC Canada Co.
2-1246 Lorimar Drive
Mississauga, Ontario L5S 1R2
www.crc-canada.ca
1-905-670-2291

In Mexico:

CRC Industries Mexico
Av. Benito Juárez 4055 G
Colonia Orquídea
San Luís Potosí, SLP CP 78394
www.crc-mexico.com
52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Extremely Flammable. Harmful or Fatal if Swallowed. Contents Under Pressure.
Appearance & Odor: Off-white, viscous grease with solvent odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause mild irritation including stinging and redness, but does not injure eye.

SKIN: Single, brief exposures may cause mild irritation. Frequent or prolonged contact may cause more severe irritation, defatting of the skin, and dermatitis.

INHALATION: High vapor concentrations are irritating to the respiratory tract and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects, including death. May cause peripheral nervous system disorder and/or damage. Heating the dispensed grease may generate irritating vapors.

INGESTION: Low order of toxicity by ingestion. Main hazard is aspiration into the lungs during swallowing or vomiting. Small amounts aspirated into the respiratory system may cause bronchopneumonia or pulmonary adema, possible progressing to death.

CHRONIC EFFECTS: Overexposure to n-hexane may cause progressive and potentially irreversible damage to the peripheral nervous system, particularly in the arms and legs.

TARGET ORGANS: central nervous system, peripheral nervous system, respiratory system

Medical Conditions Aggravated by Exposure: skin and respiratory conditions

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Product Name: White Lithium Grease (aerosol)

Product Number (s): 03080

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Hexane isomers	64742-49-0 / 107-83-5	40 - 50
n-Hexane	110-54-3	3.2
Heavy naphthenic petroleum distillates	64742-52-5	10 - 20
Liquefied petroleum gas	68476-86-8	35 - 45

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: Do NOT induce vomiting. Contact a physician immediately.

Note to Physicians: Treat symptomatically. Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is extremely flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)).

Flash Point:	< 20°F / -6°C (TCC)	Upper Explosive Limit:	9.0
Autoignition Temperature:	489°F / 254°C	Lower Explosive Limit:	1.7

Fire and Explosion Data:

Suitable Extinguishing Media: Class B fire extinguishers, dry chemical, foam or CO₂

Products of Combustion: Fumes, smoke and carbon monoxide

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode. Vapors may accumulate in a confined space and create a flammable atmosphere.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. 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. Do not spray water directly on fire; product will float and could be reignited on surface of water.

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.

Product Name: White Lithium Grease (aerosol)

Product Number (s): 03080

Methods for Containment & Clean-up: Dike area to contain spill. Remove all sources of ignition. 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: Use proper grounding and bonding procedures for transferring materials. Do not use product near any source of ignition. Avoid contact with eyes and skin. Avoid breathing vapors. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C 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	
Hexane isomers	500(v)	1000(v)	500	1000	NE		ppm
n-Hexane	500	NE	50(s)	NE	NE		ppm
Heavy naphthenic petroleum distillates	5	NE	NE	NE	NE		mg/m ³
Liquefied petroleum gas	1000	NE	1000	NE	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

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. Air monitoring is needed to determine actual employee exposure levels. 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, PVC or Viton®. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Product Name: White Lithium Grease (aerosol)

Product Number (s): 03080

Physical State: semi-solid / grease

Color: off-white

Odor: solvent

Odor Threshold: ND

Specific Gravity: 0.6257

Initial Boiling Point: 140°F / 60°C

Freezing Point: < -50°F / -45°C

Vapor Pressure: ND

Vapor Density: > 1 (air = 1)

Evaporation Rate: fast

Solubility: not soluble in water

Coefficient of water/oil distribution: ND

pH: NA

Volatile Organic Compounds: wt %: 85 g/L: 531.8 lbs./gal: 4.43

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition, temperature extremes

Incompatible Materials: Strong oxidizers

Hazardous Decomposition Products: Oxides of carbon

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 Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Hexane isomers	> 5000 mg/kg	> 2000 mg/kg	No data
n-Hexane	28,710 mg/kg	> 3000 mg/kg	48,000 ppm/4H
Heavy naphthenic petroleum distillates	No data	No data	No data
Liquefied petroleum gas	No data	No data	No data

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
Hexane isomers	No	No	No	No	Unknown
n-Hexane	No	No	No	Skin	No
Heavy naphthenic petroleum distillates	No	No	No	Eye	Unknown
Liquefied petroleum gas	No	No	No	No	No

Reproductive Toxicity: No information available

Teratogenicity: No information available

Mutagenicity: No information available

Synergistic Effects: No information available

Product Name: White Lithium Grease (aerosol)

Product Number (s): 03080

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: n-hexane - 48 Hr EC50 water flea: 3.87 mg/L
96 Hr LC50 Lepomis macrochirus: 4.12 mg/L
Persistence / Degradability: No information available
Bioaccumulation / Accumulation: No information available
Mobility in Environment: No information available

Section 13: Disposal Considerations

Waste Classification: The packaged liquid product is a RCRA hazardous waste for the characteristic of ignitability with a waste code of D001. The dispensed grease is not a hazardous waste. (See 40 CFR Part 261.20 – 261.33). Empty aerosol containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): UN1950, Aerosols, flammable, 2.1, Limited Quantity**

ICAO/IATA (air): UN1950, Aerosols, flammable, 2.1, Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.1, Limited Quantity

Special Provisions: **This product can be classified and labeled as 'Consumer Commodity, ORM-D' for domestic ground shipping until January 1, 2014.
If shipping as limited quantity by ground, note that shipping papers are not required.

Section 15: Regulatory Information

U.S. Federal Regulations:

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: n-hexane (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: White Lithium Grease (aerosol)

Product Number (s): 03080

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:
n-hexane (3.2%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): n-hexane

Occupational Safety and Health Administration:

This product is regulated by the Hazard Communications Standard.

U.S. 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: None

Consumer Products VOC Regulations: This product is not regulated (semi-solid lubricant).

State Right to Know:

New Jersey: 75-83-2, 109-66-0, 78-78-4, 96-37-7, 110-54-3, 79-29-8, 68476-86-8
Pennsylvania: 107-83-5, 75-83-2, 110-54-3, 79-29-8, 68476-86-8
Massachusetts: 107-83-5, 75-83-2, 110-54-3, 79-29-8, 68476-86-8
Rhode Island : 75-83-2, 110-54-3, 79-29-8, 68476-86-8

Canadian Regulations:

Controlled Products 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.

WHMIS Hazard Class: A, B5, D2A, D2B

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

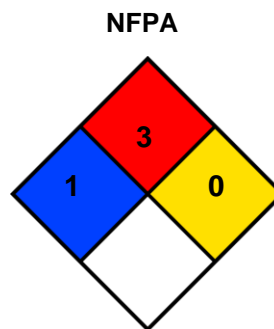
Additional Regulatory Information: None

Product Name: White Lithium Grease (aerosol)

Product Number (s): 03080

Section 16: Other Information

HMIS® (II)	
Health:	1
Flammability:	3
Reactivity:	0
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 568G
Revision Date: 04/10/2012

Changes since last revision: Section 14: Transport Information

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. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose

NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT ID : B05500099-05
PRODUCT CLASS : LATEX PAINT
TRADE NAME : ATHLETIC FIELD MARKING PAINT - WHITE

INSL-X PRO LINE

MSDS PREPARATION DATE : 05/26/2009

MANUFACTURER IDENTIFICATION:

NAME : COMPLEMENTARY COATINGS CORP
dba INSL-X

ADDRESS : 101 PARAGON DRIVE
MONTVALE, NJ 07645

TELEPHONE : (800) 225-5554

EMERGENCY CONTACT : CHEMTREC

EMERGENCY TELEPHONE (US) : (800) 424-9300

EMERGENCY TELEPHONE (OUTSIDE US) : (703) 527-3887

SECTION 2 - COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

1

CAS# 107-21-1

ETHYLENE GLYCOL

PCT BY WT: 1.4890 VAPOR PRESSURE: .060 MMHG @ 20C

EXPOSURE LIMIT:

ACGIH CEILING: 100 mg/m3 (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: 3 - 7

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) - >10000 mg/kg

3 GROUND LIMESTONE

CAS# 1317-65-3

CALCIUM CARBONATE

PCT BY WT: 15 - 40

EXPOSURE LIMIT:

ACGIH TLV/TWA: 2 mg/m3 TLV

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

B05500099-05

COMPLEMENTARY COATINGS CORP
MATERIAL SAFETY DATA SHEET

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 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.

COMPLEMENTARY COATINGS CORP
MATERIAL SAFETY DATA SHEET

B05500099-05

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 mopping.

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.

B05500099-05

COMPLEMENTARY COATINGS CORP
MATERIAL SAFETY DATA SHEET

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	:	1.447
Weight per Volume	:	12.0441 LB/GL
VOC - Total (lb/gal)	:	.722
Evaporation Rate	:	.010 (n-Butyl Acetate = 1)
Volatile by Weight	:	48.4928
Volatile by Volume	:	69.9277

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.

COMPLEMENTARY COATINGS CORP
MATERIAL SAFETY DATA SHEET

B05500099-05

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 reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

ETHYLENE GLYCOL

COMPLEMENTARY COATINGS CORP
MATERIAL SAFETY DATA SHEET

SECTION 16 - OTHER INFORMATION

MSDS Prepared for

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 - 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

PARKER PRODUCTS, INC. (PKI)
2050 NORTH 15TH AVENUE MELROSE PARK, IL 60160
TELEPHONE NUMBER - 708-681-1250

SECTION I

PRODUCT NAME: BIG 3 INSULATING CEMENT
INSUL-ALL INSULATING CEMENT

FORMULA: NOT APPLICABLE

PRODUCT TYPE: THERMAL INSULATING CEMENT

NFPA RATING: 1-0-0-0

CHEMICAL FAMILY: NOT APPLICABLE

DOT NO: NOT REGULATED

SECTION II**PRODUCT HAZARDOUS INGREDIENTS**

<u>MATERIAL</u>	<u>TLV-TWA</u>	<u>CAS #</u>	<u>PERCENT</u>
Mineral Wool Fiber	10 mg/M total 5 mg/M respirable	None Assigned	25-35
Bentonite Colloidal Clay	10 mg/M total 5 mg/M respirable	1302-78-9	35-45

Note: International Agency for Research on Cancer (IARC) has classified crystalline silica in the category of Group 1 and continues to classify mineral wool fiber in the category of 2B.

SECTION III**HAZARDS INFORMATION**

This product contains crystalline silica. Prolonged exposure to dust may cause silicosis, a progressive pneumoconiosis, or other respiratory diseases. International Agency for Research on Cancer (IARC) has classified crystalline silica as Group 1. The agency states there is sufficient evidence of carcinogenicity in humans. Reference: IARC Monograph 68.

Dust from product at any stage of its use or during tear-out after service may, especially on long term exposure, lead to lung disease unless respiratory protection is employed. NIOSH approved respirators should be worn any time that refractories are torn out after service. While a respiratory hazard and/or nuisance dust may exist from the product itself, other foreign substances may warrant additional precautions during tear-out and disposal.

SECTION IV**FIRE AND EXPLOSION HAZARD DATA**

FLASH POINT: Non-Combustible

EXTINGUISHING MEDIA: Material compatible with CO₂, water or dry chemical extinguishing media.

SPECIAL FIRE FIGHTING PROCEDURES: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

Material Safety Data Sheet
Product: Big 3 Insulating Cement

06/01/00
2 of 3

SECTION V FIRST AID AND HEALTH HAZARD DATA

EFFECT OF OVEREXPOSURE:

EYES:

ACUTE: May cause irritation.

CHRONIC: None known.

SKIN:

ACUTE: May cause skin irritation.

CHRONIC: None known.

INHALATION:

ACUTE: May cause upper respiratory irritation.

CHRONIC: Prolonged irritation of mineral wool dust may reduce lung function.

EFFECTS OF OVEREXPOSURE:

INGESTION:

ACUTE: CONSULT A PHYSICIAN IMMEDIATELY.

EMERGENCY AND FIRST AID PROCEDURES:

EYES: Immediately rinse eyes with plenty of water until irritation stops.

SKIN: Wash frequently with soap and water to minimize irritation.

INHALATION: Remove to fresh air. Remove fibers and dust from nose and drink water to clear throat.

INGESTION: Consult a physician immediately.

NOTE: Should any of the above conditions persist, consult a physician.

SECTION VI ACCIDENTAL RELEASE MEASURES

SPILLS: Avoid creating dust, use a vacuum or wet clean-up to minimize dust.

WASTE DISPOSAL: Mineral wool fiber products are generally classified as a non-hazardous waste and may be disposed of in a non-critical landfill. Always check all local, state and federal regulations.

SECTION VII HANDLING AND STORAGE

Store in dry area. Product is non-flammable.

SECTION VIII EXPOSURE CONTROLS AND PERSONAL PROTECTION

RESPIRATORY PROTECTION: Wear NIOSH/MSHA approved respirators.

VENTILATION: Use sufficient ventilation (natural or mechanical) while handling this material in a dry state, to maintain airborne dust levels below TLV.

EYE PROTECTION: Safety glasses or goggles should be worn when materials are being handled.

GENERAL INFORMATION: Use waterproof or rubber gloves to protect hands. Clothing should be long sleeved, loose fitting and a cap should be worn. Wash all work clothing separate from other clothing to prevent possible migration of mineral wool fiber and dust to other clothes.

SECTION IX CHEMICAL AND PHYSICAL PROPERTIES

APPEARANCE AND ODOR: DRY, GRANULAR MIXTURE, GRAY IN COLOR.

BOILING POINT: N/A

MELTING POINT: N/A

SOLUBILITY IN WATER: N/A

pH: 9.5 to 10.5

ODOR: NONE

Material Safety Data Sheet
Product: Big 3 Insulating Cement

06/01/00
3 of 3

SECTION X
STABILITY AND REACTIVITY

This product is stable under normal conditions of use, storage and transportation.

This product can react with strong acids.

SECTION XI
TOXICOLOGICAL INFORMATION

LD or LC for oral, dermal, or inhalation routes of administration: no data for product.

SECTION XII
ECOLOGICAL INFORMATION

Ecotoxicological/chemical fate information: Not available.

SECTION XIII
DISPOSAL CONSIDERATIONS

As supplied, product may be disposed of in an approved landfill, in accordance with federal, state and local regulations.

Supplier can make no statement concerning disposal of used product, since product may become contaminated by hazardous materials during use.

SECTION XIV
TRANSPORTATION INFORMATION

U.S.A. DOT: Not regulated.

Canadian TDG Hazard Class & PIN: Not regulated.

SECTION XV
REGULATORY INFORMATION

TSCA Status: All components listed.

Canadian DSL: All components listed.

SARA Title III, Section 313: This MSDS provides the toxic chemical "SUPPLIER INFORMATION" required under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372. Toxic chemical information, if applicable to the product(s) named, is located in Section II - HAZARDOUS INGREDIENTS section of the MSDS.

SECTION XVI
OTHER INFORMATION

MSDS Status: Replaces MSDS Dated 09/27/97

Note: This material safety data sheet contains confidential proprietary information and is not to be disclosed to the general public or to competition except as required by law. The information accumulated herein is believed to be accurate but is not warranted to be, whether originating with P.K. Insulation Mfg. Co., Inc. or not. This information is offered solely for use in your evaluation of this product in respect to safety, health, and environmental hazards.

MANUFACTURED BY: P.K. INSULATION MFG. CO., INC. JOPLIN, MO
CURRENT MSDS DATE 06/01/00

01525
797-2179.

159

MATERIAL SAFETY DATA SHEET

PRODUCT: INSULATING CEMENT

EMERGENCY TELEPHONE NUMBER: 708-681-1250

EFFECTIVE : DECEMBER 8, 1992

SECTION 1	PRODUCT IDENTIFICATION
TRADE NAME:	INSUL-ALL INSULATING CEMENT
MANUFACTURER:	PARKER PRODUCTS INC. (PKI)
ADDRESS:	2050 N. 15TH AVENUE MELROSE PARK, IL 60160
TELEPHONE NUMBER:	708-681-1250

SECTION 2 .		INGREDIENTS/IDENTITY INFORMATION	
MATERIALS	ACGIH TLV		CAS NUMBER
Mineral Wool Fiber	10 mg/M	total	None Assigned
	5 mg/M	respirable	
Bentonite Collodial Clay	10 mg/M	total	1302-78-9
	5 mg/M	respirable	

SECTION 3	PHYSICAL/CHEMICAL CHARACTERISTICS
Boiling Point: N/A	Solubility in Water: N/A
Melting Point: N/A	Appearance: Dry, granular mixture no odor, gray in color.

SECTION 4	FIRE AND EXPLOSION HAZARD DATA
Flash Point: Non-combustible	
Extinguishing Media: Materials compatible with CO ₂ , water or dry chemical extinguishing media.	
Explosion Potential: N/A	
NFPA Rating: Health 1 Fire 0 Reactivity 0 Unusual Hazards 0	

SECTION 5	REACTIVITY DATA
Stability: Stable	
Materials To Avoid: Strong acids	
Hazardous Decomposition: None	
Hazardous Polymerization: Will not occur	

SECTION 6	HEALTH HAZARD DATA
Primary Routes of Exposure: Skin or eye contact and inhalation.	
Notes: Mineral wool fiber and nuisance dust may cause transitory mechanical irritation to eyes, skin or upper respiratory tract. Pre- existing upper respiratory and lung diseases may be aggravated by dust.	

HEALTH HAZARD DATA (CON'T)

Ingestion: Consult a physician.

SPIILLS, LEAKS AND DISPOSAL PROCEDURES

EPA Hazardous Waste Number: N/A

SPECIAL PROTECTION INFORMATION

General Information: Use waterproof or rubber gloves to protect hands. Clothing should be long sleeved, loose fitting and a cap should be worn. Wash all work clothes separate from other clothing to prevent possible migration of mineral wool fiber and dust to other clothes. Always rinse with water after each use.

HANDLING AND STORAGE

The information herein has been compiled from sources believed to be reliable and is accurate to the best of our knowledge. However, Parker Products Inc. cannot give any guarantees regarding information from other sources and expressly does not make any warranties nor assumes any liabilities, for its use.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 412.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Iodine Solution, Gram

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
Iodine	7553-56-2	I ₂	253.81	<1%
Potassium iodide	7681-11-0	KI	166.01	<1%
Water	7732-18-5	H ₂ O	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 (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 #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store away from heat and direct light.

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.

Exposure guidelines: (as iodine) Ceiling 0.1 ppm (OSHA); TLV 0.01 ppm (inhalable fraction and vapor) (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Deep brown liquid. Iodine odor.

Biological stain, Gram formulation.

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Fair to poor. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant, stomach cramps.

ORL-HUM LD₅₀: 2-4 g as iodine

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: 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 #12a 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 25, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 407.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Iodine

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, dermal and inhalation (Category 4). Harmful if inhaled or in contact with skin (H312+H332).

Hazard class: Skin corrosion or 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
Iodine	7553-56-2	I ₂	253.81	

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, 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. 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 #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Sublimes. Store in a Flinn Chem-Saf™ bag. Store in a cool, dry place. Frequently oxidizes metal shelves or metal containers in proximity to the iodine. Use only in a hood or well-ventilated area (P271). Do not breathe dust or fumes (P260).

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: Ceiling 0.1 ppm (OSHA); TLV 0.01 ppm (inhalable fraction and vapor) (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Gray-black flakes with a metallic luster. Characteristic odor.
Soluble: Alcohol and other organic solvents. Insoluble in water.

Boiling point: 185.24 °C
Melting point: 113.5 °C
Specific gravity: 4.98

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with magnesium, zinc, ammonia, and aluminum. Corrodes steel. Reacts violently with acetaldehyde.
Shelf life: Fair, sublimes. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Highly toxic, harmful vapor, corrosive, severe lachrymator, sensitizer, stomach pains, vomiting.
Chronic effects: Dermatitis.
Target organs: Thyroid.

ORL-HUM LD₅₀: 28 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 #12a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Iodine. UN number: UN3495 Hazard class: 8L

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-442-4), 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 25, 2014

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

MSDS #: 411.00

Revision Date: April 2, 2001

Section 1 — Chemical Product and Company Identification

Iodine-Potassium Iodide 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

Iodine (7553-56-2) 0.3%, Potassium Iodide (7681-11-0) 1.5%, and Water (7732-18-5) >98%.

CAS#: None Established

Section 3 — Hazards Identification

Pale yellow/brown liquid. Slight iodine odor.

May be skin irritant.

Avoid all body tissue contact.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-1

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. 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 #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store away from heat and direct light.

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

Pale yellow/brown liquid. Slight iodine odor.

Section 10 — Stability and Reactivity

Shelf life: Fair to poor.

Section 11 — Toxicological Information

Acute effects: Irritant, stomach cramps

Chronic effects: N.A.

Target organs: Thyroid

ORL-HUM LD50: 2-4 gm as iodine

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 #12a 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 Is No. 1 in Safety

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

GHS SAFETY DATA SHEET

IPEX CLR Regular Bodied Low VOC PVC Plastic Pipe Cement

Date Revised: JAN 2012

Supersedes: MAR 2010

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: IPEX CLR Regular Bodied Low VOC PVC Plastic Pipe Cement**PRODUCT USE:** Low VOC Solvent Cement for PVC Plastic Pipe**SUPPLIER:** Multi Fittings Corp.
4507 LeSaint Court
Fairfield, Ohio 45014**MANUFACTURER:** IPS Corporation
17109 South Main Street, Carson, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300**EMERGENCY:** Transportation: CHEMTEL Tel. 800.255-3924, 813-248-0585 (International)**Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health	Environmental	Physical
Acute Toxicity: Category 4	Acute Toxicity: None Known	Flammable Liquid Category 2
Skin Irritation: Category 3	Chronic Toxicity: None Known	
Skin Sensitization: NO		
Eye: Category 2B		

GHS LABEL:



OR

**Signal Word:**
Danger**WHMIS CLASSIFICATION:** CLASS B, DIVISION 2

Hazard Statements

H225: Highly flammable liquid and vapor
 H319: Causes serious eye irritation
 H332: Harmful if inhaled
 H335: May cause respiratory irritation
 H336: May cause drowsiness or dizziness
 EUH019: May form explosive peroxides

Precautionary Statements

P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
 P261: Avoid breathing dust/fume/gas/mist/vapors/spray
 P280: Wear protective gloves/protective clothing/eye protection/face protection
 P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P403+P233: Store in a well ventilated place. Keep container tightly closed
 P501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	20 - 40
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	30 - 45
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	15 - 25

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.

* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon, hydrogen chloride and smoke

Health	2	2	0-Minimal
Flammability	3	3	2-Moderate
Reactivity	0	0	3-Serious
PPE	B		4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
 Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
 Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
 Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
 Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44 °C (110 °F) and away from direct sunlight.
 Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
 Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:	Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL:
	Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	
	Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	
	Cyclohexanone	20 ppm	50 ppm	50 ppm	

Engineering Controls: Use local exhaust as needed.**Monitoring:** Maintain breathing zone airborne concentrations below exposure limits.**Personal Protective Equipment (PPE):****Eye Protection:** Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.**Skin Protection:** Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.

Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.

Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, regular syrupy liquid	Odor Threshold:	0.88 ppm (Cyclohexanone)
Odor:	Ketone	Boiling Range:	66°C (151°F) to 156°C (313°F)
pH:	Not Applicable	Evaporation Rate:	> 1.0 (BUAC = 1)
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	Flammability:	Category 2
Boiling Point:	66°C (151°F) Based on first boiling component: THF	Flammability Limits:	LEL: 1.1% based on Cyclohexanone
Flash Point:	-20°C (-4°F) TCC based on THF		UEL: 11.8% based on THF
Specific Gravity:	0.934 @23°C (73°F)	Vapor Pressure:	129 mm Hg @ 20°C (68°F) based on THF
Solubility:	Solvent portion soluble in water. Resin portion separates out.	Vapor Density:	>2 (Air = 1)
Partition Coefficient n-octanol/water:	Not Available	Other Data: Viscosity:	Regular bodied
Auto-ignition Temperature:	321°C (610°F) based on THF		
Decomposition Temperature:	Not Applicable		
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A, VOC content is: ≤ 510 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Hazardous decomposition products:	None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.
Conditions to avoid:	Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials:	Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation:	Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact:	Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact:	Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion:	May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: None known to humans

Toxicity:

LD₅₀LC₅₀

Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m ³ (rat)
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m ³ (rat)
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	None Known
Mobility:	In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 510 g/l.
Degradability:	Biodegradable
Bioaccumulation:	Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name:	Adhesives
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1133
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping

DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D".

TDG INFORMATION

TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	ADHESIVES
UN NUMBER/PACKING GROUP:	UN 1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information:	Highly Flammable, Irritant	Ingredient Listings:	USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)
Symbols:	F, Xi		
Risk Phrases:	R11: Highly flammable. R20: Harmful by inhalation. R36/37: Irritating to eyes and respiratory system.	R66: Repeated exposure may cause skin dryness or cracking R67: Vapors may cause drowsiness and dizziness	
Safety Phrases:	S9: Keep container in a well-ventilated place. S16: Keep away from sources of ignition - No smoking. S25: Avoid contact with eyes.	S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S33: Take precautionary measures against static discharges. S46: If swallowed, seek medical advice immediately and show this container or label.	

SECTION 16 - OTHER INFORMATION

Specification Information:		
Department issuing data sheet:	IPS, Safety Health & Environmental Affairs	All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).
E-mail address:	<EHSinfo@ipscorp.com>	
Training necessary:	Yes, training in practices and procedures contained in product literature.	
Reissue date / reason for reissue:	1/4/2012 / Updated GHS Standard Format	
Intended Use of Product:	Solvent Cement for PVC Plastic Pipe	

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

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 Iron (II) Sulfate Heptahydrate

Product No. 9414006

CAS 7782-63-0

Material Uses Not available.

Synonyms Not available.

Formula $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$

Section 2: Hazardous Ingredients

Product Name

Iron (II) Sulfate Heptahydrate

CAS

13463-43-9

Conc (%)

> 95

PIN

NA9125

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. (Crystalline granules solid.)	Odor Threshold	Not available.
Color	Blue-Green.	Vapor Pressure	Not available.
Odor	Odorless.	Evaporation Rate (Reference solvent)	Not available.
Specific Gravity (Water = 1)	1.897 (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)	3.7 [Acidic.]
Water/Oil Dist. Coeff.	Not available.	Solubility	Partially 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 Not applicable.

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.) ACGIH (TLV) TWA: 1 mg/m³ (Fe).

Acute Effects Slightly hazardous in case of skin contact (irritant), of eye contact (irritant).

Routes of Entry Absorbed through skin. Eye contact. Ingestion. **LD50/LC50** Oral LD50: 1520 mg/kg (mouse)
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 20 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 Reactive with oxidizing agents, alkalis.

Degradation Prod. These products are sulfur oxides (SO₂, SO₃,...). 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. If necessary: **Neutralize the residue with a dilute solution of sodium carbonate.**

Disposal Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 8: Protection Equipment Information

Equipment Safety glasses. 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 9/12/2002

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		
2- MODÈRE	INFLAMMABILITÉ	0
1- FAIBLE		
0- MINIMAL	RÉACTIVITÉ	0

Nom du produit Sulfate de fer (II) heptahydraté

No. de produit 9414006

CAS 7782-63-0

Utilisations Non disponible.

Synonymes Non disponible.

Formule FeSO₄·7H₂O

Section 2: Ingrédients dangereux

Nom du produit

Sulfate de fer (II) heptahydraté

CAS

13463-43-9

Conc (%)

> 95

NIP

NA9125

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. (Solide granulés cristallins.)	Seuil de l'odeur	Non disponible.
Couleur	Bleu-vert.	Tension de vapeur	Non disponible.
Odeur	Inodore.	Taux d'évaporation (Solvant de référence)	Non disponible.
Gravité spécifique (Eau = 1)	1.897 (Eau = 1)	Densité de vapeur (Air = 1)	Non disponible.
Point de fusion	Non disponible.	Pourcentage volatil en volume pH (1% soln/eau)	Non disponible.
Point d'ébullition	Non disponible.		3.7 [Acide.]
Coeff. dist. eau/huile	Non disponible.	Solubilité	Partiellement 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 Sans objet.

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.) ACGIH (TLV) TWA: 1 mg/m³ (Fe).

Effets aigus Très légèrement dangereux en cas de contact cutané (irritant), de contact avec les yeux (irritant).

Voies d'entrées Absorbé par la peau. Contact avec les yeux. Ingestion. **DL50/CL50** Oral DL50: 1520 mg/kg (souris) 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 20 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 Réactif avec agents oxydants, les alcalis.

Prod. dégradation Ces produits sont des oxydes de soufre (SO₂, SO₃...). 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. Si nécessaire: **Neutraliser le résidu avec une solution diluée de carbonate de sodium.**

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 de sécurité. Blouse de laboratoire (sarrau). Respirateur anti-poussières. Utiliser uniquement un appareil respiratoire 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 9/12/2002

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.

MSDS # 370.00

Iron (III) Ammonium Citrate



Section 1: Product and Company Identification

Iron (III) Ammonium Citrate

Synonyms/General Names: Ferric Ammonium Citrate (Brown)**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

*Reddish-brown granules or powder; no odor.***CAUTION!** Slightly toxic by ingestion and body tissue irritant.
Target organs: None known.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

HMIS (0 to 4)

Health	1
Fire Hazard	0
Reactivity	0

Section 3: Composition / Information on Ingredients

Ferric Ammonium Citrate (1185-57-5), 100%

Section 4: First Aid Measures

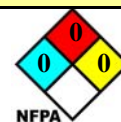
*Always seek professional medical attention after first aid measures are provided.***Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.**Ingestion:** 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

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 skin, 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: Iron (III) Ammonium Citrate: OSHA PEL: Not Available, ACGIH: TLV: Not Available, STEL: Not Available.

Section 9: Physical and Chemical Properties

Molecular formula	N/A.	Appearance	Reddish brown granules or powder.
Molecular weight	N/A.	Odor	No odor.
Specific Gravity	N/A.	Odor Threshold	N/A.
Vapor Density (air=1)	N/A.	Solubility	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	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

Avoid heat and moisture.

Stability: Stable under normal conditions of use and storage.

Incompatibility: Strong oxidizers, alkalis.

Shelf life: Poor shelf life, store in a cool, dry environment; protect from light.

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

Iron (III) Ammonium Citrate: LD50 [oral, rat]; N/A; 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): 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: Listed (214-686-6).

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.

MSDS # 371.00

Iron (III) Ammonium Sulfate



Section 1: Product and Company Identification

Iron (III) Ammonium Sulfate

Synonyms/General Names: Ferric Ammonium Citrate (Brown)**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

*Pale violet crystals; no odor.***HMIS (0 to 4)**

Health	1
Fire Hazard	0
Reactivity	0

CAUTION! Slightly toxic by ingestion and body tissue irritant.

Target organs: None known.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 3: Composition / Information on Ingredients

Ferric Ammonium Sulfate (7783-83-7), 100%

Section 4: First Aid Measures

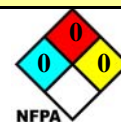
*Always seek professional medical attention after first aid measures are provided.***Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.**Ingestion:** 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

Nonflammable 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 skin, 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: Iron (III) Ammonium Sulfate: OSHA PEL: N/A, ACGIH: TLV: N/A, STEL: N/A.

Section 9: Physical and Chemical Properties

Molecular formula	FeNH ₄ (SO ₄) ₂ ·12H ₂ O.	Appearance	Pale violet crystals.
Molecular weight	N/A.	Odor	No odor.
Specific Gravity	1.71 g/mL @ 20°C.	Odor Threshold	N/A.
Vapor Density (air=1)	N/A.	Solubility	Soluble in water.
Melting Point	40°C.	Evaporation rate	N/A . (Butyl acetate = 1).
Boiling Point/Range	N/A.	Partition Coefficient	N/A . (log P _{ow}).
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

Avoid heat and moisture.

Stability: Stable under normal conditions of use and storage.

Incompatibility: Strong oxidizers

Shelf life: Poor shelf life, store in a cool, dry environment; protect from light.

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

Iron (III) Ammonium Sulfate: LD50 [oral, rat]; N/A; 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): 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.

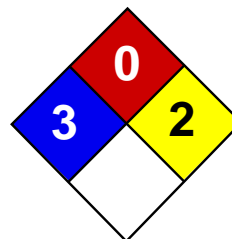
California Proposition 65: Not listed.

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.



Health	3
Fire	0
Reactivity	2
Personal Protection	J

Material Safety Data Sheet

Ferric chloride MSDS

Section 1: Chemical Product and Company Identification

Product Name: Ferric chloride

Catalog Codes: SLF1675, SLF2188

CAS#: 7705-08-0

RTECS: LJ9100000

TSCA: TSCA 8(b) inventory: Ferric chloride

Cl#: Not available.

Synonym:

Chemical Formula: FeCl₃

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
Ferric chloride	7705-08-0	100

Toxicological Data on Ingredients: Ferric chloride: ORAL (LD50): Acute: 900 mg/kg [Rat]. 1278 mg/kg [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator). Corrosive to eyes and skin. 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.

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. 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.

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: 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. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

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. 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 locked up Keep container dry. Keep away from heat. Keep away from sources of ignition. Keep away from direct sunlight or strong incandescent light. Do not ingest. Do not breathe dust. Never add water to this product Avoid shock and friction. 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: 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. 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: 1 CEIL: 2 (mg/m3) Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid.

Odor: Not available.

Taste: Not available.

Molecular Weight: 162.21 g/mole

Color: Not available.

pH (1% soln/water): 2 [Acidic.]

Boiling Point: 316°C (600.8°F)

Melting Point: 306°C (582.8°F)

Critical Temperature: Not available.

Specific Gravity: 2.9 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: 5.61 (Air = 1)

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.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances:

The product may undergo hazardous decomposition, condensation or polymerization, it may react violently with water to emit toxic gases or it may become self-reactive under conditions of shock or increase in temperature or pressure.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Eye contact. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 900 mg/kg [Rat].

Chronic Effects on Humans: The substance is toxic to lungs, mucous membranes.

Other Toxic Effects on Humans:

Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator).

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: : Ferric chloride, anhydrous : UN1773 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

Pennsylvania RTK: Ferric chloride Massachusetts RTK: Ferric chloride TSCA 8(b) inventory: Ferric chloride CERCLA: Hazardous substances.: Ferric chloride

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

Other Classifications:

WHMIS (Canada):

CLASS E: Corrosive solid. CLASS F: Dangerously reactive material.

DSCL (EEC): R36/38- Irritating to eyes and skin.

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 05:32 PM

Last Updated: 05/21/2013 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.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 341.00

Revision Date: August 3, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Iron(III) 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
Iron(III) nitrate	7782-61-8	$\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$	404.00	4-40%
Water	7732-18-5	H_2O	18.00	60-96%

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 (P305+P351+P338). Immediately call a POISON CENTER or physician (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 #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).

Exposure guidelines: (as iron nitrate) TLV 1 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Brown-yellow liquid. Odorless.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with oxidizers and organic material.

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Corrosive, irritant.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 3250 mg/kg as iron(III) nitrate

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: 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: August 3, 2015

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

MSDS #: 340.00

Revision Date: September 20, 2004

Material Safety Data Sheet (MSDS)

Section 1 — Chemical Product and Company Identification

Iron(III) 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

Iron(III) nitrate, nonahydrate

Synonym: ferric nitrate

CAS#: 7782-61-8

Section 3 — Hazards Identification

Pale violet crystal. Slight nitric acid odor.

Slightly toxic by ingestion and inhalation. Irritant to body tissues. Avoid all body tissue contact.

Strong oxidizer. Dangerous fire risk.

FLINN AT-A-GLANCE

Health-1

Flammability-0

Reactivity-3

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: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable solid.

Strong oxidizer, contact with combustible material may cause fire. When heated to decomposition, emits 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.

Moisture sensitive material. Deliquescent, store in Flinn 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. Use exhaust ventilation to keep airborne concentrations low.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

Iron(III) Nitrate

MSDS #: 340.00

Revision Date: September 20, 2004

Section 9 — Physical and Chemical Properties

Pale violet crystal. Slight nitric acid odor.
Solubility: Soluble in water, alcohol, acetone.
Formula: $\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$
Formula Weight: 404.00

Specific Gravity: 1.7
Melting Point: 47.2 C

Section 10 — Stability and Reactivity

Avoid contact with combustible materials.
Shelf life: Fair to poor, deliquescent, store in a Flinn Chem-Saf bag.

Section 11 — Toxicological Information

Acute effects: Irritant
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: 3250 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: Ferric nitrate
Hazard Class: 5.1, Oxidizer
UN Number: UN1466

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (233-899-5), 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.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Improve Safety--Use Flinn 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 #: 342.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Iron(III) Oxide, Red

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
Iron(III) oxide, red	1309-37-1	Fe ₂ O ₃	159.69	
Synonyms: Ferric oxide, red; Ferric trioxide				

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 #4. Store with hydroxides, oxides, silicates and carbonates. Store in a cool, dry place. Use and dispense in a hood or well-ventilated area. 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). Use exhaust ventilation to keep airborne concentrations low.

Exposure Guidelines: PEL 10 mg/m³ (as fume) (OSHA), TLV 5 mg/m³ (respirable fraction) (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Dark, dense, red powder or lumps. Odorless.

Melting point: 1565 °C

Soluble: Acids. Insoluble in water.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong acids, peroxides, and chloroformates.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.

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 (215-168-2).

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 #: 344.00

Revision Date: November 4, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Iron(III) 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: 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
Iron(III) sulfate, heptahydrate	10028-22-5	$\text{Fe}_2(\text{SO}_4)_3 \cdot 7\text{H}_2\text{O}$	399.88	
Synonym: Ferric sulfate				

SECTION 4 — FIRST AID MEASURES

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

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. Keep tightly closed and protect from light. Store in a Flinn Chem-Saf™ bag and then inside a Flinn Saf-Stor™ can. 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 1 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Yellow to grayish-white crystals or powder. Odorless.

Specific gravity: 2.0 - 2.1

Soluble: Water

Melting point: 480 °C

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Fair to poor, hygroscopic. 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: 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 (233-072-9).

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: November 4, 2015

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 416.00

Revision Date: May 21, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Iron

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.

This SDS is for bulk pieces of iron metal, such as wire, strips, and sheets. Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed. Please see SDS 416.50 for iron powder or iron filings.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Iron	7439-89-6	Fe	55.85	

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

Finely divided iron can be flammable.

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. 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.
Moisture sensitive material.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Avoid contact with eyes. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Malleable silver-white metal. Odorless.	Melting point: 1536 °C
Soluble: Sulfuric, hydrochloric, and nitric acids. Insoluble in water.	Specific gravity: 7.87

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with acids, moisture, strong oxidizing agents, halogens, phosphorus, and oxygen.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Harmful dust.	ORL-RAT LD ₅₀ : 30 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

TSCA-listed, EINECS-listed (231-096-4), 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: May 21, 2015

MANTEK DIV OF NCH CORP -- IRON-CRETE, 4032 -- 8040-00N037167

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

Product ID:IRON-CRETE, 4032
MSDS Date:11/14/1991
FSC:8040
NIIN:00N037167
Status Code:A
MSDS Number: CJLBQ
=== Responsible Party ===
Company Name:MANTEK DIV OF NCH CORP
Box:152170
City:IRVING
State:TX
ZIP:75015
Country:US
Info Phone Num:972-438-1381; 214-438-1381
Emergency Phone Num:214-438-1381
Preparer's Name:M. DICKSON
CAGE:64796

=== Contractor Identification ===

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:PART A CONTAINING ING 2

Ingred Name:DIGLYCIDYL ETHER OF BISPHENOL A LD50: (ORAL, RAT) 11 G/KG.
CAS:1675-54-3
RTECS #:TX3800000

Ingred Name:PART B CONTAINING INGREDIENTS 4 - 7.

Ingred Name:DIETHYLENETRIAMINE LD50: (ORAL, RAT) 1080 MG/KG
CAS:111-40-0
RTECS #:IE1225000
OSHA PEL:1 PPM
ACGIH TLV:4.2 MG/M3;1 PPM

Ingred Name:TRIETHYLENETETRAMINE LD50: (ORAL, RAT) 2500 MG/KG.
CAS:112-24-3
RTECS #:YE6650000
OSHA PEL:10 PPM
ACGIH TLV:10 PPM

Ingred Name:TETRAETHYLENEPENTAMINE LD50: (ORAL, RAT) 3990 MG/KG
CAS:112-57-2
RTECS #:KH8585000
OSHA PEL:10 PPM
ACGIH TLV:20 PPM

Ingrid Name:QUARTZ (SIO2); (SILICON DIOXIDE)
 CAS:14808-60-7
 RTECS #:VV7330000
 OSHA PEL:see Table Z-3
 ACGIH TLV:0.1 MG/M3

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

LD50 LC50 Mixture:SEE INGREDIENTS
 Routes of Entry: Inhalation:NO Skin:YES Ingestion:NO
 Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:NO
 Health Hazards Acute and Chronic:ACUTE: MAY CAUSE SEVERE SKIN INJURY (REDDENING AND SWELLING). MAY CAUSE CHEMICAL BURNS IN THE EYE WITH IRREVERSIBLE DAMAGE. MAY CAUSE RESPIRATORY IRRITATION. SWALLOWING CAN CAUSE NAUSEA, DIARRHEA, CRAMPING AND WEAKNESS. CHRONIC: PROLONGED CONTACT WITH SKIN MAY CAUSE SENSITIZATION AND ALLERGENIC RESPONSES. PROLONGED BREATHING OF VAPORS CAN LEAD TO SAME EFFECTS AS INGESTION. INHALATION OF SILICON DIOXIDE CAN CAUSE A PROGRESSIVE LUNG DISEASE KNOWN AS SILICOSIS. STUDIES INDICATE THAT PERSONS DIAGNOSED WITH SILICOSIS HAVE AN INCREASED RISK OF LUNG CANCER. THIS HAZARD WOULD APPLY DURING SANDING. (SUP DAT)
 Explanation of Carcinogenicity:SILICA, CRYSTALLINE-QUARTZ: IARC MONOGRAPHS, VOL 68, 1997:GROUP 1. NTP 8TH ANNUAL REPORT ON CARCINOGENS, 1998: REASONABLY ANTICIPATED TO BE HUMAN CARCINOGEN
 Effects of Overexposure:HLTH HAZS: THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS. DIGLYCIDYL ETHER OF BISPHENOL A: IRRITANT. DIETHYLENE TRIAMINE: CORROSIVE. TRIETHYLENE TETRAMINE: CORROSIVE. TETRAETHYLENE PENTAMINE: CORROSIVE. SILICON DIOXIDE: CARCINOGEN.

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

First Aid:INHAL: GET PERSON OUT OF CONTAM AREA TO FRESH AIR. IF BRTHG HAS STOPPED, ARTF RESP SHOULD BE STARTED. OXYG MAY BE ADMIN, IF READILY AVAIL. SEEK MED ATTN IMMED. EYES: FLUSH W/LG AMTS OF WATER FOR AT LEAST 15 MIN, LIFTING UPPER & LOWER LIDS OCCASNL. GET MED ATTN IF IRRIT PERSISTS. TREATMENT IS MOST EFFCTIVE W/IN ONE MIN. SKIN: THOROUGHLY WASH EXPOS AREA W/SOAP & WATER. REMOVE CONTAM CLTHG. LAUNDER CO NTAM CLTHG BEFORE REUSE. APPLY EMOLLIENT RICH CREAM. INGEST: DO NOT INDUCE VOMIT. KEEP PERSON WARM, QUIET & GET MED ATTN. ASPIR OF MATL INTO LUNGS DUE TO VOMIT CAN CAUSE CHEM PNEUMIT WHICH CAN BE FATAL. (SUPDAT)

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

Flash Point Method:TCC
 Flash Point:>93.3C, 200.F
 Extinguishing Media:FOAM, CARBON DIOXIDE, DRY CHEMICAL, WATER SPRAY.
 Fire Fighting Procedures:USE NIOSH APPROVED SCBA AND FULL PROTECTIVE EQUIPMENT TO PROTECT FROM EXPOSURE TO ACID SMOKE AND HAZARDOUS DECOMPOSITION PRODUCTS.
 Unusual Fire/Explosion Hazard:N/A. NFPA HAZARD RATING (0=INSIGNIFICANT; 1=SLIGHT; 2=MODERATE; 3=HIGH; 4=EXTREME): HEALTH:2; FLAMMABILITY: 1; REACTIVITY: 0.

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

Spill Release Procedures:ELIMINATE ALL IGNITION SOURCES. USE ABSORBENT SUCH AS PAPER, VERMICULITE, ETC, TO CONTAIN SPILL. DO NOT FLUSH TO

SEWER. PLACE INTO LABELED CONTAINERS.

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

Handling and Storage Precautions: STORAGE TEMPERATURE: 120F MAX; 32F MIN; INDOOR. STORE AT MODERATE TEMPERATURES. AVOID CONTACT WITH SKIN.

Other Precautions: KEEP OUT OF REACH OF CHILDREN. READ ENTIRE LABEL BEFORE USING PRODUCT.

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

Respiratory Protection: TYPICAL USAGE OF PRODUCT DOES NOT REQUIRE THE USE OF A RESPIRATOR. HOWEVER, IN AN EMERGENCY SITUATION, USE A NIOSH APPROVED ORGANIC VAPOR OR AIR-LINE RESPIRATOR. USE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS IN CONFINED SPACES.

Ventilation: LOCAL EXHAUST RECOMMENDED TO KEEP AIR CONCENTRATION WELL BELOW ESTABLISHED TLV.

Protective Gloves: IMPERVIOUS NEOPRENE GLOVES.

Eye Protection: ANSI APPROVED CHEMICAL WORKERS GOGGLES & FULL LENGTH FACESHIELD.

Other Protective Equipment: ANSI APPROVED EYE WASH AND DELUGE SHOWER. RUBBER APRON.

Supplemental Safety and Health

FIRST AID PROC: NOTES TO MD: GASTRIC LAVAGE IS INDICATED. DO NOT INDUCE VOMITING. TOXICOLOGICAL INFO: RESP DISEASE MORTALITY OBSERVED IN WORKERS EXPOSED TO FIBROUS (NY) TALC & EXCESS NON-MALIGNANT RES P DISEASE MORTALITY OBSERVED IN THOSE EXPOSED TO NON-FIBROUS (VERMONT) TALC.

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

Boiling Pt: 260.C, 500.F

Vapor Pres: <0.01 MM HG

Vapor Density: 10 (AIR=1)

Evaporation Rate & Reference: <0.01 (BU AC=1)

Solubility in Water: NEGLIGIBLE

Appearance and Odor: DARK GRAY; NO ODOR.

Percent Volatiles by Volume: <2

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

Stability Indicator/Materials to Avoid: YES

ACIDS AND OTHER EPOXY RESINS; STRONG OXIDIZERS.

Stability Condition to Avoid: MIXTURE OF PART A & B WILL HARDEN AND GENERATE HEAT.

Hazardous Decomposition Products: ACRID SMOKE. CARBON MONOXIDE AND OXIDES OF NITROGEN.

Conditions to Avoid Polymerization: OTHER EPOXY RESINS. REACTION OF OUR PRODUCT WILL NOT CAUSE ABOVE EFFECT.

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

Toxicological Information: PROD CNTNS CHEM LISTED AS CARCIN OR POTNTL CARCIN BY: IARC. DIGLYCIDYL ETHER OF BISPHENOL A - SKIN-RBT: 500 MG OPEN MILD; EYE-RBT: 2 MG/24H SEV; ORL-RAT LD50: 11 G/KG. DIETHYLENE TRIAMINE - ORL-RAT LD 50: 1080 MG/KG; SKN-RBT 10 MG/24H SEV; SKN-RBT LD50: 1090 MG/KG. TRIETHYLENE TETRAMINE - ORL-RAT LD50: 2500 MG/KG; SKN-RBT LD50: 820 MG/KG. MNO-SAT (NMOL/PLATE). TETRAETHYLENE PENTAMINE - ORL-RAT LD50: 3990 MG/KG; SKN-RBT: 495 MG OPEN SEV.

CRYSTALLINE SILICA - INH-HMN TCLO: 16MPPCF/8H/179Y-I TFX:PUL;
IHL-HMN LCLO: 300 UG/M3 10Y-I; INV-DOG LDLO: 20 MG/KG. IN
EPIDEMIOLOGICAL STUDIES, AN EXCESS IN RES P CANCER & NON-MALIGNANT
(SUPDAT)

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

Waste Disposal Methods:DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE
AND LOCAL REGULATIONS.

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

SARA Title III Information:NO LISTED INGREDIENTS 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.

State Regulatory Information: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: SILICA (1).

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

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,
expressly or implied, warrants this information to be accurate and
disclaims all liability for its use. Any person utilizing this
document should seek competent professional advice to verify and
assume responsibility for the suitability of this information to their
particular situation.

**IS802 12C-Crtrg(0.730LBS-0.331KG)
SILICONE INDUSTRIAL SEALANT**

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufactured By: Waterford Plant
260 Hudson River Rd
Waterford NY 12188

Revised: 09/05/2007
Preparer: PRODUCT STEWARDSHIP COMPLIANCE AND STANDARDS
CHEMTREC 1-800-424-9300

Chemical Family/Use: Sealant
Formula: Mixture

HMIS

Flammability: 1 Reactivity: 0 Health: 0

NFPA

Flammability: 1 Reactivity: 0 Health: 1

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! May be harmful if swallowed. Irritating to eyes, respiratory system and skin. Adverse liver and reproductive effects reported in animals.

Form: Solid Color: White Odor: Acetic acid

POTENTIAL HEALTH EFFECTS

INGESTION

May be harmful if swallowed.

SKIN

Uncured product contact will irritate lips, gums and tongue. Skin irritation is possible after contact with the uncured product.

INHALATION

Inhalation of vapors may cause irritation of the respiratory tract. Applies in uncured state.

EYES

Eye irritation is possible after contact with the uncured product.

MEDICAL CONDITIONS AGGRAVATED

None known.

SUBCHRONIC (TARGET ORGAN)

Liver; Reproductive hazard.

CHRONIC EFFECTS / CARCINOGENICITY

This product or one of its ingredients present at 0.1% or more is NOT listed as a carcinogen or

IS802 12C-Crtrg(0.730LBS-0.331KG)
SILICONE INDUSTRIAL SEALANT

suspected carcinogen by NTP, IARC, or OSHA.

ROUTES OF EXPOSURE

Dermal

3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>PRODUCT COMPOSITION</u>	<u>CAS REG NO.</u>	<u>WGT. %</u>
<u>A. HAZARDOUS</u>		
METHYLTRIACTOXSILANE	4253-34-3	1 - 5 %
Octamethylcyclotetrasiloxane	556-67-2	1 - 5 %
<u>B. NON-HAZARDOUS</u>		
Siloxanes & Silicones, Dimethylpolymers w/Methylsilsesquioxanes	68554-67-6	5 - 10 %
Treated Filler	68611-44-9	5 - 10 %
Dimethylpolysiloxane	70131-67-8	60 - 90 %

4. FIRST AID MEASURES**INGESTION**

Do not induce vomiting. If victim is conscious, give 1-3 glasses of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if irritation persists.

SKIN

To clean from skin, remove completely with a dry cloth or paper towel, before washing with detergent and water. Get medical attention if irritation persists.

INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

EYES

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

NOTE TO PHYSICIAN

Treatment is symptomatic and supportive.

IS802 12C-Crtrg(0.730LBS-0.331KG) SILICONE INDUSTRIAL SEALANT

5. FIRE-FIGHTING MEASURES

FLASH POINT: > 93 °C; 199 °F
METHOD: estimated
FLAMMABLE LIMITS IN AIR - LOWER (%): Not applicable
FLAMMABLE LIMITS IN AIR - UPPER (%): Not applicable

SENSITIVITY TO MECHANICAL IMPACT: No

SENSITIVITY TO STATIC DISCHARGE

Sensitivity to static discharge is not expected.

EXTINGUISHING MEDIA

All standard extinguishing agents are suitable.

SPECIAL FIRE FIGHTING PROCEDURES

Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard. Wear proper protective equipment as specified in the protective equipment section.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Product releases acetic acid during application and curing. Use only in well-ventilated areas. Avoid contact with skin and eyes. Remove contact lenses before using sealant. Do not handle lenses until all sealant has been cleaned from the fingertips, nails and cuticles. Residual sealant may remain on fingers for several days and transfer to lenses and cause severe eye irritation.

STORAGE

Store away from heat, sources of ignition, and incompatibles. Keep out of the reach of children. Keep container tightly closed.

IS802 12C-Crtrg(0.730LBS-0.331KG) SILICONE INDUSTRIAL SEALANT

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Eyewash stations; Showers; Exhaust ventilation

RESPIRATORY PROTECTION

If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).

PROTECTIVE GLOVES

Impermeable or chemical resistant gloves.

EYE AND FACE PROTECTION

Safety glasses

OTHER PROTECTIVE EQUIPMENT

Wear suitable protective clothing and eye/face protection.

Exposure Guidelines

Component	CAS RN	Source	Value
Octamethylcyclotetrasiloxane	556-67-2	Z_INTL_OEL, REL	5 ppm

Absence of values indicates none found

PEL - OSHA Permissible Exposure Limit; TLV - ACGIH Threshold Limit Value; TWA - Time Weighted Average

OSHA revoked the Final Rule Limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338).

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:

Solid

ODOR:

Acetic acid

COLOR:

White

SPECIFIC GRAVITY (WATER=1):

ca. 1.04

DENSITY:

1.04 g/cm³ ca. 1.04 g/cm³

ACID / ALKALINITY (MEQ/G):

Not applicable

pH:

Not applicable

VOLATILE ORGANIC CONTENT (VOL):

1.5 %(m)

SOLUBILITY IN WATER (20 C):

Insoluble

SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):

Toluene

VOC EXCL. H₂O & EXEMPTS (G/L):

20

**IS802 12C-Crtrg(0.730LBS-0.331KG)
SILICONE INDUSTRIAL SEALANT**

10. STABILITY AND REACTIVITY

STABILITY

Stable

HAZARDOUS POLYMERIZATION

Will not occur.

HAZARDOUS THERMAL DECOMPOSITION / COMBUSTION PRODUCTS

Carbon dioxide (CO₂); Carbon monoxide; Acetic acid; Silicon dioxide.; Formaldehyde

CONDITIONS TO AVOID

None known.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL

Remarks: Unknown

ACUTE DERMAL

Remarks: Unknown

ACUTE INHALATION

Remarks: NONE FOUND

OTHER

Octamethylcyclotetrasiloxane Ingestion: Rodents given large doses via oral gavage of octamethylcyclotetrasiloxane (1600 mg/kg day, 14 days) developed increased liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appear normal) as well as hypertrophy (increased cell size). Inhalation: In inhalation studies, laboratory rodents exposed to octamethylcyclotetrasiloxane (300 ppm five days week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm) showed no toxic effects in rodents. Range finding reproductive studies were conducted (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) with octamethylcyclotetrasiloxane (D4). Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found. Interim results from a two generation reproductive study in rats exposed to 500 and 700 ppm D4 (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) resulted in a statistically significant decrease in live mean litter size as well as extended periods of off-spring delivery (dystocia). These results were not observed at the 70 and 300 ppm dosing levels. Preliminary results from an ongoing 24-month combined chronic/oncogenicity study in rats exposed to 10, 30, 150, or 700 ppm D4 showed test-article related effects in the kidney (male and female) and uterus of rats exposed for 12 to 24 months. These effects include increased kidney weight and severity of chronic nephropathy, increased uterine weight, increased incidence of endometrial cell hyperplasia, and an

IS802 12C-Crtrg(0.730LBS-0.331KG)
SILICONE INDUSTRIAL SEALANT

increased incidence of endometrial adenomas. All of these effects are limited to the 700 ppm exposure group. The relevance of these data to humans is unclear. Further studies are ongoing. In developmental toxicity studies, rats and rabbits were exposed to octamethylcyclotetrasiloxane at concentrations up to 700 ppm and 500 ppm respectively. No teratogenic effects (birth defects) were observed in either study.

SENSITIZATION

No data available

SKIN IRRITATION

No data available

EYE IRRITATION

No data available

MUTAGENICITY

Unknown

OTHER EFFECTS OF OVEREXPOSURE

This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive., Acetic acid released during curing.

12. ECOLOGICAL INFORMATION**ECOTOXICITY**

No data available

DISTRIBUTION

No data available

CHEMICAL FATE

No data available

13. DISPOSAL CONSIDERATIONS**DISPOSAL METHOD**

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION**Further Information:**

This product is not regarded as dangerous goods according to the

IS802 12C-Crtrg(0.730LBS-0.331KG)
SILICONE INDUSTRIAL SEALANT

national and international regulations on the transport of dangerous goods.

15. REGULATORY INFORMATION**Inventories**

Canada NDSL Inventory	n (Negative listing)	
TSCA list	y (Positive listing)	
Japan Inventory of Existing & New Chemical Substances (ENCS)	y (Positive listing)	
Korea Existing Chemicals Inventory (KECI)	y (Positive listing)	
China Inventory of Existing Chemical Substances	y (Positive listing)	
Australia Inventory of Chemical Substances (AICS)	y (Positive listing)	
TSCA list	y (Positive listing)	On TSCA Inventory
EU list of existing chemical substances	y (Positive listing)	
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	n (Negative listing)	

For inventories that are marked as quantity restricted or special cases, please contact Momentive.

US Regulatory Information**SARA (311,312) HAZARD CLASS**

Acute Health Hazard; Chronic Health Hazard

SARA (313) CHEMICALS**Canadian Regulatory Information****WHMIS HAZARD CLASS**

D2A VERY TOXIC MATERIALS, D2B TOXIC MATERIALS

Other

SCHDLE B/HTSUS: 3214.10.00.10 Mastic based on rubber

ECCN: EAR99

CALIFORNIA PROPOSITION 65

This product does not contain any chemicals known to State of California to cause cancer, birth, or

**IS802 12C-Crtrg(0.730LBS-0.331KG)
SILICONE INDUSTRIAL SEALANT**

any other reproductive defects.

16. OTHER INFORMATION

OTHER

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is 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., C = ceiling limit NEGL = negligible EST = estimated NF = none found
NA = not applicable UNKN = unknown NE = none established REC = recommended ND = none determined V = recommended by vendor SKN = skin TS = trade secret R = recommended MST = mist NT = not tested STEL = short term exposure limit ppm = parts per million ppb = parts per billion By-product= reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2).

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 3- SEVERE 2- MODERATE 1- SLIGHT 0- MINIMAL	HEALTH 1 FLAMMABILITY 3 REACTIVITY 0

Product Name Isobutyl Alcohol

Product No. 9508206

CAS 78-83-1

Material Uses Not available.

Synonyms Not available.

Formula C₄H₁₀O

Section 2: Hazardous Ingredients

Product Name

Isobutanol

CAS

78-83-1

Conc (%)

100

PIN

UN1212

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	Liquid.	Odor Threshold	40 ppm
Color	Colorless.	Vapor Pressure	10.4 mmHg @ 25°C
Odor	Alcohol like.	Evaporation Rate (Reference solvent)	0.82 compared to Butyl acetate.
Specific Gravity (Water = 1)	0.802 (Water = 1)	Vapor Density (Air = 1)	2.55 (Air = 1)
Melting Point	-107.72°C (-161.9°F)	Percent Volatile by Volume	Not available.
Boiling Point	107.83°C (226.1°F)	pH (1% water soln)	Not available.
Water/Oil Dist. Coeff.	Not available.	Solubility	Very slightly soluble in cold water, hot water.

Section 4: Fire and Explosion Hazard Data

Flash Point (Methods)	CLOSED CUP: 27.9°C (82.2°F).	Autoignition Temp.	414.9°C (778.8°F)
Flammable Limits in Air by Volume	Not available.		
Flammability	Highly flammable in presence of open flames, sparks and static discharge, of heat.		

Explosion Hazard Not available.

Haz. Comb. Prod. These products are carbon oxides (CO, CO₂).

**Means of
Extinction** Use dry chemical powder.

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 ACGIH TLV (United States, 2001). TWA: 152 mg/m³ TWA: 50 ppm.
(P.E.L., TLV, etc.) OSHA PEL TWA: 100 ppm.

Acute Effects Hazardous in case of skin contact (irritant), of eye contact (irritant).

Routes of Entry Absorbed through skin. Eye contact. Inhalation. Ingestion. **LD50/LC50** Acute oral toxicity (LD50): 2460 mg/kg [Rat].
Acute dermal toxicity (LD50): 3400 mg/kg [Rabbit].

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 20 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 Reactive with oxidizing agents.

Degradation Prod. These products are carbon oxides (CO, CO₂) and water. **Hazardous polymerization?** Will not occur.

Materials to Avoid Not available.

Section 7: Spill or Leak Procedures

Spill Absorb with an inert material and put the spilled material in an appropriate waste disposal.

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. Gloves.

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 on location.

Section 9: Other Information

Special Precautions Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 4). Do not touch or walk through spilled material.

Read label on container before using. Do not wear contact lenses when working with chemicals.

Verified by S. Quandt **Effective Date** Printed 10/25/2002

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

Nom du produit Alcool isobutylique

No. de produit 9508206

CAS 78-83-1

Manufactured by:
Columbus Chemical Industries, Inc.
N4335 Tremblin 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	3
2- MODÉRÉ		
1- FAIBLE	RÉACTIVITÉ	0
0- MINIMAL		

Utilisations Non disponible.

Synonymes Non disponible.

Formule C₄H₁₀O

Section 2: Ingrédients dangereux

Nom du produit

Isobutanol

CAS
78-83-1

Conc (%)
100

NIP
UN1212

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	Liquide.	Seuil de l'odeur	40 ppm
Couleur	Incolore.	Tension de vapeur	10.4 mmHg @ 25°C
Odeur	Alcoolisée.	Taux d'évaporation (Solvant de référence)	0.82 comparé à Acétate de butyle.
Gravité spécifique (Eau = 1)	0.802 (Eau = 1)	Densité de vapeur (Air = 1)	2.55 (Air = 1)
Point de fusion	-107.72°C (-161.9°F)	Pourcentage volatil en volume pH (1% soln/eau)	Non disponible.
Point d'ébullition	107.83°C (226.1°F)	Non disponible.	
Coeff. dist. eau/huile	Non disponible.	Solubilité	Très légèrement soluble dans l'eau froide, l'eau chaude.

Section 4: Données sur les dangers de feu et d'explosion

Point d'éclair (Méthodes)	COUPE FERMÉE: 27.9°C (82.2°F).	Temp. d'autoinflammation	414.9°C (778.8°F)
Limites d'inflammabilité dans l'air par volume	Non disponible.		
Inflammabilité	Très inflammable en présence de flammes nues, d'étincelles et de décharges d'électricité statique, de chaleur.		
Risques d'explosion	Non disponible.		
Prod. comb. dang.	Ces produits sont des oxydes de carbone (CO, CO ₂).		
Moyens d'extinction	Utiliser de la poudre extinctrice.		

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.)** ACGIH TLV (États-Unis, 2001). TWA: 152 mg/m³ TWA: 50 ppm
OSHA PEL 1989 (États-Unis, 1989). TWA: 150 mg/m³ TWA: 50 ppm

Effets aigus Dangereux en cas de contact cutané (irritant), de contact avec les yeux (irritant).

Voies d'entrées Absorbé par la peau. Contact avec les yeux.
Inhalation. Ingestion.

DL50/CL50

Toxicité orale aiguë (DL50): 2460 mg/kg [Rat].
Toxicité cutanée aiguë (DL50): 3400 mg/kg [Lapin].

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 20 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 Réactif avec agents oxydants.

Prod. dégradation Ces produits sont des oxydes de carbone (CO, CO₂) et de l'eau.

Polymérisation dangereuse?
Ne se produira pas.

**Substances à
éviter** Non disponible.

Section 7: Procédures en cas de déversement

Déversement Absorber avec une matière inerte et mettre le produit répandu dans un contenant de récupération approprié.

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). Gants.

**Contrôles
d'ingénierie** Une ventilation par aspiration à la source ou d'autres systèmes de contrôle technique sont recommandés pour maintenir les concentrations des vapeurs inférieures aux limites. S'assurer de la proximité d'une douche oculaire et d'une douche de sécurité au poste de travail.

Section 9: Autre information

**Précautions
spéciales** Contacter immédiatement le personnel d'urgence. Éliminer toutes les sources d'inflammation. 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). NE PAS TOUCHER ni marcher dans le produit répandu.

Lire l'étiquette sur le contenant avant l'usage. Ne pas porter de verres de contact lorsque vous utilisez des produits chimiques.

Vérifié par S. Quandt

Date effective Imprimé le 10/25/2002

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 #: 419.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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

Hazard class: Acute toxicity, inhalation (Category 4). Harmful if inhaled (H332). Avoid breathing gas, mist, vapors or spray (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Isopentyl alcohol	123-51-3	$(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2\text{OH}$	88.15	
Synonyms: 3-Methyl-1-butanol; Isoamyl alcohol				

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 on skin (or hair):** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). Wash with plenty of water (P302+P352). **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: 43 °C Flammable limits: Lower: 1.2% Upper: 9.0% Autoignition Temperature: 350 °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-2

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-StorTM can. Avoid prolonged storage (see Section 10). 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/TLV 100 ppm (OSHA, ACGIH); Ceiling 125 ppm (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear, colorless liquid. Strong, disagreeable odor like alcohol.

Soluble: Slightly in water. Miscible with alcohol and ether.

Boiling point: 131 °C

Melting point: -117 °C

Refractive index: 1.4053

Specific gravity: 0.813

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, acid chlorides, and anhydrides.

Shelf life: Poor. May form explosive peroxides with age. Do not distill to dryness.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: eye, skin, respiratory tract irritation; headache, dizziness; cough, dyspnea (breathing difficulty), nausea, vomiting,

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: 1300 mg/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: 3970 uL/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: Amyl Alcohols. Hazard class: 3, Flammable liquid. UN number: UN1105.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (204-633-5), 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

Section 1 — Chemical Product and Company Identification

Isopropyl Alcohol

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

Isopropyl Alcohol (67-63-0) 70%, and Water (7732-18-5) 30%

Synonym: 2-propanol, rubbing alcohol

CAS#: None Established

Section 3 — Hazards Identification

Clear colorless liquid; distinctive odor; like rubbing alcohol.

Irritant to body tissues. Slightly toxic by ingestion and inhalation.

The single lethal dose for a human adult is about 400 mL, although as little as 150 mL can be fatal.

FLINN AT-A-GLANCE

Health-1

Flammability-2

Reactivity-1

Exposure-0

Storage-3

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: Induce vomiting. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Combustible liquid.

Flash Point: 75 F Upper: 12% Lower: 2.5% Autoignition Temperature: 860 F

When heated to decomposition, emits acrid smoke and 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

H-1

F-0

R-0

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Remove all ignition sources and ventilate area. Contain spill with sand and 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.

Store in a cool dry place. 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).

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

Isopropyl Alcohol

MSDS #: 420.50

Revision Date: February 24, 2003

Section 9 — Physical and Chemical Properties

Clear colorless liquid.
Solubility: Water soluble, soluble in alcohol and ether.
Formula: C₃H₈O
Formula Weight: 60.11

Specific Gravity: .8745 (70%)
Boiling Point: 81.65 C (70%)

Section 10 — Stability and Reactivity

Avoid contact with strong oxidizers, acetaldehyde, chlorine, ethylene oxide, acids, isocyanates.
Shelf life: Poor.

Section 11 — Toxicological Information

Acute effects: Severe eye irritant, nausea, headache, vomiting	ORL-RAT LD50: N.A.
Chronic effects: N.A.	IHL-RAT LC50: N.A.
Target organs: Nerves, kidneys	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 #18a 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 (200-661-7), 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.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Flinn Is No. 1 in Safety

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

SECTION 1: Chemical Product and Company Identification

Manufacturer: Cumberland Swan
One Swan Drive
Smyrna, TN 37167

Date: March 2000

Product: Isopropyl Alcohol (IPA)

50%, 70%, 91% and 99% IPA

Telephone: (615) 459-8900

24hr Emergency: (615) 459-8900 ext. 5270

SECTION 2: Composition/Information on Ingredients

Name: Isopropanol, IPA, 2-Propanol, Dimethyl Carbinol CAS#: 67-63-0

SECTION 3: Hazards Identification

Colorless, volatile liquid with the odor of rubbing alcohol. Isopropyl Alcohol is a dangerous fire risk. Prolonged exposure to elevated concentrations of vapors may result in irritation of the eyes, nose, and throat and central nervous system (CNS) depression. Prolonged dermal exposure can result in dry, cracking skin.

Potential Routes of Exposure: Ingestion, inhalation, dermal contact,
eye contact

Target Organs: Eyes, skin, respiratory system

Symptoms of Overexposure:

Inhalation:	Mild irritation of eyes, nose and throat.
Ingestion:	Drowsiness, headache
Dermal Contact:	Dry, cracking skin
Acute Effects:	Irritation of skin and/or upper respiratory tract as noted above. Acute CNS depression may be manifested as giddiness, headache, dizziness and/or nausea.
Chronic Effects:	Chronic exposure can result in skin irritation and contact dermatitis. Pre-existing disorders of the skin, eyes, and respiratory tract may be exacerbated by exposure to isopropyl alcohol.

HMIS: H=1, F=3, R=0 See Section 8 for PPE information

SECTION 4: First Aid Measures

Eye:	Flush eyes with copious amount of water for at least 15 minutes
Skin:	Flush with water. If irritation persists, seek medical attention.
Ingestion:	Do not induce vomiting if victim is unconscious or drowsy. Seek medical attention or contact the poison control center.
Inhalation:	Remove victim to fresh air and provide oxygen if breathing is difficult. Seek Medical attention if breathing continues to be difficult.

SECTION 5: Fire Fighting Measures

- Extinguishing Media: Use water fog, alcohol foam, dry chemical or CO₂
- Unusual Fire or Explosion Hazards: Containers exposed to intense heat from fires should be cooled with large amounts of water to prevent buildup of internal pressure due to vapor generation which could result in container rupture.
- Recommendations: Clear area of unprotected personnel. Wear complete turnout gear. Cool containers exposed to fire with water.

SECTION 6: Accidental Release Measures

- Large Spills: Eliminate all ignition sources. Equipment must be grounded to prevent sparking. Evacuate the area of unprotected personnel. Contain source of spill. Dike or otherwise confine spilled product. Uncontrolled releases to air, land, or water may be reportable to the National Response Center (1-800-424-8802).
- Small Spills: Take up with absorbent material and place in non-leaking container; seal tightly. Dispose of absorbent (see section 13)

SECTION 7: Handling and Storage

- Storage Requirements: Store in tightly closed containers in a cool, dry area away from heat and other possible ignition sources.
- Handling precautions: Use non-sparking tools to open containers. Maintain appropriate class of fire extinguishers nearby in case of fire.

SECTION 8: Exposure Controls / Personal Protection

OSHA PEL=400ppm OSHA STEL=500ppm IDLH=12,000ppm

Recommended Engineering Controls: Use explosion-proof ventilation equipment as necessary to maintain airborne concentrations below the PEL. Ground all containers to prevent static sparks during fluid transfers.

Recommended Admin Controls: Train employees on the hazards of Isopropyl Alcohol

PPE: Goggles, gloves, NIOSH approved respiratory protection required when above PEL/TWA

Recommended Hygiene Practices: Clean PPE and work clothing contaminated prior to reuse. After working with this product, be sure to wash before eating, smoking, drinking, or applying cosmetics.

SECTION 9: Physical and Chemical Properties

Appearance: Colorless Liquid UEL: 12% LEL: 2%

Odor: Mild Rubbing Alcohol Odor Threshold: 43ppm Water solubility: Miscible

	50% IPA	70%IPA	91%IPA	99%IPA
Vapor Pressure (@ 68°F) approx.	29mm	23mm	33mm	33mm
Specific Gravity	.929	.878	.790	.790
Boiling Point	176 ° F	176 ° F	180 ° F	181 ° F
Flash Point (TAG Open Cup)	74.5 ° F	70.5 ° F	54 ° F	53 ° F
Freezing Point	-32-50 ° C	-32-50 ° C	-32-50 ° C	-127 ° F
Molecular Weight	47.5	47.5	47.5	60.1
Auto Ignition Temperature	No Data	No Data	No Data	750 ° F

SECTION 10: Stability and Reactivity

Stability:	Stable
Polymerization:	Will not occur
Incompatible Chem:	Strong oxidizers, acetaldehyde, chlorine, ethylene oxide, acids, isocyanates
Conditions to avoid:	Heat, sparks, and open flame. Do Not store in aluminum > 120 °F
Hazardous Products:	CO and unidentified organic compounds may be formed of Decomposition

SECTION 11: Toxicological Information

LD50: 5,840 mg/kg (acute oral - rat); 13,000 mg/kg (acute dermal - rabbit)	
LD50: 16,000 ppm/8hr (inhalation - rat)	Mutagenicity: Not Indicated
LD ₁₀ : 5,000 mg/kg (oral - rabbit)	Reproductive Effects: Not Indicated
Carcinogenicity: Not identified as a carcinogen by OSHO, IARC, or NTP	

SECTION 12: Ecological Information

Ecotoxicity: N/A **Environmental Fate:** N/A
Soil Absorption/Mobility: Highly Mobile
Environmental Degradation: Should be removed readily from soils and water by volatilization and biodegradation.

SECTION 13: Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations.
Disposal regulatory Requirements: Follow applicable Federal, state, and local regulations. Consider fuels blending as an alternative to incineration.

SECTION 14: Transport Information

DOT Shipping Name: Isopropanol	DOT Packing Group: II
DOT Hazard Class: 3	DOT Label: Flammable Liquid
UN ID#: UN 1219	

SECTION 15: Regulatory Information

RCRA Hazardous Waste Number/ Classification: D001 CERCLA Substance: N/A
HAZARDOUS AIR POLLUTANT (CAA): No SARA 311/312 Codes: N/A
SARA Toxic Chemical: Yes, (Strong manufacturing only)
CERCLA Reportable Quantity: 10,000 lbs (Default)

SECTION 16: Other Information

Prepared by: Cumberland Swan
Sources of Information: 29 CFR 1910.1000; NIOSH Pocket Guide to Chemical Hazards (1993); Occupational Health Guidelines for Chemical Hazards; NFPA Guide to Hazardous Materials - 10th Edition.
Disclaimer: While reasonable care has been taken to ensure the accuracy and completeness of the information regarding the material described herein, it is the purchaser's responsibility to ensure the suitability of such information as it applies to the purchaser's intended use of the material.

MSDS: ISOPROPYL ALCOHOL, (IPA, 2-PROPANOL)
Reagent ACS

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TELECHEMA INTERNATIONAL, INC

524 E. WEDDELL

Sunnyvale, CA 94089

1-408-744-1331

www.arrayit.com

EMERGENCY TELEPHONE NUMBER: 1-800-424-9300 (NORTH AMERICA)

Date MSDS Prepared: December 28, 2001

Safety Data Review Date: February 7, 2002

MSDS Preparer's Name: R. Schena

CHEMICAL FAMILY: alcohols, aliphatic

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: ISOPROPYL ALCOHOL

CAS NUMBER: 67-63-0

EC NUMBER (EINECS): 200-661-7

EC INDEX NUMBER: 603-117-00-0

PERCENTAGE: 100.00

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=3 REACTIVITY=0

EMERGENCY OVERVIEW:

PHYSICAL FORM: soluble concentrate

MAJOR HEALTH HAZARDS: respiratory tract irritation, eye irritation, central nervous system depression

PHYSICAL HAZARDS: Flash back hazard.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: same as effects reported in short term ingestion, irritation, hallucinations

LONG TERM EXPOSURE: no information on significant adverse effects

SKIN CONTACT:

SHORT TERM EXPOSURE: same as effects reported in short term ingestion, irritation

LONG TERM EXPOSURE: irritation

EYE CONTACT:

SHORT TERM EXPOSURE: irritation (possibly severe), eye damage

LONG TERM EXPOSURE: irritation

INGESTION:

SHORT TERM EXPOSURE: changes in blood pressure, nausea, vomiting, stomach pain, difficulty breathing, irregular heartbeat, headache, drowsiness, dizziness, disorientation, loss of coordination, lung congestion, internal bleeding, kidney damage, coma

LONG TERM EXPOSURE: no information on significant adverse effects

CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: No

SECTION 4 FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

NOTE TO PHYSICIAN: For ingestion, consider gastric lavage and activated charcoal slurry. Consider oxygen.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive.

EXTINGUISHING MEDIA: alcohol resistant foam, carbon dioxide, regular dry chemical, water

Large fires: Use alcohol-resistant foam or flood with fine water spray.

FIRE FIGHTING: 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. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

FLASH POINT: 53.0F,11.7C

SECTION 6 ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Avoid heat, flames, sparks and other sources of ignition. Remove sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

SECTION 7 HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

ISOPROPYL ALCOHOL:

ISOPROPYL ALCOHOL (ISOPROPANOL; 2-PROPANOL):

- 400 ppm (980 mg/m³) OSHA TWA
- 500 ppm (1230 mg/m³) OSHA STEL (vacated by 58 FR 35338, June 30, 1993)
- 400 ppm ACGIH TWA
- 500 ppm ACGIH STEL
- 400 ppm (980 mg/m³) NIOSH recommended TWA 10 hour(s)
- 500 ppm (1225 mg/m³) NIOSH recommended STEL
- 500 mg/m³ (200 ml/m³) DFG MAK (peak limitation category-II, 1)
- 400 ppm (999 mg/m³) UK OES TWA
- 500 ppm (1250 mg/m³) UK OES STEL

MEASUREMENT METHOD: Charcoal tube; 2-Butanol/Carbon disulfide; Gas chromatography with flame ionization detection; NIOSH IV # 1400, Alcohols
VENTILATION: Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

2000 ppm

Any supplied-air respirator operated in a continuous-flow mode.

Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).

Any air-purifying respirator with a full facepiece and an organic vapor canister.

Any powered, air-purifying respirator with organic vapor cartridge(s).

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

Escape -

Any air-purifying respirator with a full facepiece and an organic vapor canister.

Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES
--

Appearance and Odor: COLORLESS LIQUID; CHARACTERISTIC ODOR

Boiling Point: 180F,82C

Melting Point: -127F,-88C

Vapor Pressure (MM Hg/70 F): 33 MMHG

Vapor Density (Air=1): 2.07

Specific Gravity: 0.7864

Decomposition Temperature: UNKNOWN

Evaporation Rate And Ref: 2.88 (N-BUTYL ACETATE=1)

Solubility In Water: COMPLETE

Percent Volatiles By Volume: 100
Corrosion Rate (IPY): UNKNOWN

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure. Stable at normal temperatures and pressure.

INCOMPATIBILITIES: acids, metals, oxidizing materials, combustible materials, halogens, peroxides, bases, metal salts

ISOPROPYL ALCOHOL:

ACIDS: Incompatible.

ACIDS ANHYDRIDES: Incompatible.

ALUMINUM: Dissolution is exothermic.

BARIUM PERCHLORATE: Formation of explosive compound.

2-BUTANONE (METHYL ETHYL KETONE): Accelerates the peroxidation of the alcohol.

CHROMIUM TRIOXIDE (GRANULAR): Ignition.

COATINGS: May be attacked.

DIOXYGENYL TETRAFLUOROBORATE: Ignition at ambient temperatures.

HALOGENS: Incompatible.

HYDROGEN + PALLADIUM (PARTICLES): Ignition on exposure to air.

HYDROGEN PEROXIDE: Formation of explosive compound.

KETONES: Markedly increases the possibility of peroxidation.

NITROFORM (TRINITROMETHANE): Dissolves liberating heat and possibly exploding.

OLEUM: Temperature and pressure increase in closed container.

OXIDIZERS (STRONG): Fire and explosion hazard.

OXYGEN (GAS): Autoxidation, on exposure to light, results in formation of ketones and potentially explosive hydrogen peroxide.

PHOSGENE: In the presence of iron salts, may explode.

PLASTICS: May be attacked.

POTASSIUM TERT-BUTOXIDE: Ignition.

RUBBER: May be attacked.

SODIUM DICHROMATE + SULFURIC ACID: Exothermic reaction with possible incandescence.

See also ALCOHOLS.

ALCOHOLS:

ACETALDEHYDE: Violent condensation reaction.

BARIUM PERCHLORATE: Formation of highly explosive perchloric ester on refluxing.

CHLORINE: Formation of highly explosive alkyl hypochlorites.

DIETHYL ALUMINUM BROMIDE: Spontaneous ignition.

ETHYLENE OXIDE: Possible explosion

HEXAMETHYLENE DIISOCYANATE: Possible explosion in absence of solvent.

HYDROGEN PEROXIDE + SULFURIC ACID: Possible explosion.
HYPOCHLOROUS ACID: Formation of highly explosive alkyl hypochlorites.
ISOCYANATES: Possible explosion in absence of solvent.
LITHIUM ALUMINUM HYDRIDE: Vigorous reaction.
NITROGEN TETROXIDE: Possible explosion.
PERCHLORIC ACID (HOT): Dangerous interaction.
PERMONOSULFURIC ACID: Possible explosion on contact with primary or secondary alcohols.
TRI-ISO-BUTYL ALUMINUM: Violent reaction.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of carbon

POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

ISOPROPYL ALCOHOL:

IRRITATION DATA:

500 mg skin-rabbit mild; 100 mg eyes-rabbit severe; 10 mg eyes-rabbit moderate; 100 mg/24 hour(s) eyes-rabbit moderate

TOXICITY DATA:

14432 mg/kg oral-man TDLo; 223 mg/kg oral-human TDLo; 5272 mg/kg oral-man LDLo; 3570 mg/kg oral-human LDLo; 13 gm/kg oral-infant TDLo; 2 ml/kg unreported-human LDLo; 2770 mg/kg unreported-man LDLo; 1375 mg/kg unreported-infant TDLo; 5045 mg/kg oral-rat LD50; 16000 ppm/8 hour(s) inhalation-rat LC50; 2735 mg/kg intraperitoneal-rat LD50; 1088 mg/kg intravenous-rat LD50; 3600 mg/kg oral-mouse LD50; 12800 ppm/3 hour(s) inhalation-mouse LCLo; 4477 mg/kg intraperitoneal-mouse LD50; 6 gm/kg subcutaneous-mouse LDLo; 1509 mg/kg intravenous-mouse LD50; 1537 mg/kg oral-dog LDLo; 1024 mg/kg intravenous-dog LDLo; 6 ml/kg oral-cat LDLo; 1963 mg/kg intravenous-cat LDLo; 6410 mg/kg oral-rabbit LD50; 12800 mg/kg skin-rabbit LD50; 667 mg/kg intraperitoneal-rabbit LD50; 1184 mg/kg intravenous-rabbit LD50; 2560 mg/kg intraperitoneal-guinea pig LD50; 3444 mg/kg intraperitoneal-hamster LD50; 20 gm/kg parenteral-frog LDLo; 6 gm/kg subcutaneous-mammal LDLo; 7 ml/kg/7 day(s) intermittent oral-rat TDLo; 100 mg/m³/4 hour(s)-17 week(s) intermittent inhalation-rat TCLo; 8000 ppm/8 hour(s)-20 week(s) intermittent inhalation-rat TCLo; 5000 ppm/6 hour(s)-90 day(s) intermittent inhalation-rat TCLo; 2500 ppm/6 hour(s)-2 year(s) intermittent inhalation-rat TCLo; 10000 ppm/6 hour(s)-11 day(s) intermittent inhalation-mouse TCLo; 5000 ppm/6 hour(s)-13 week(s) intermittent inhalation-mouse TCLo; 5000 ppm/6 hour(s)-13 week(s) intermittent inhalation-mouse TCLo; 5000 ppm/6 hour(s)-78 week(s) intermittent inhalation-mouse TCLo

CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3; EC: Category 1

Human Sufficient Evidence. IARC Group 1. Workers involved in the manufacture of isopropyl alcohol by the strong-acid process, involving the formation of isopropyl oils, showed an increase in paranasal and laryngeal cancer.

LOCAL EFFECTS:

Irritant: inhalation, eye

ACUTE TOXICITY LEVEL:

Slightly Toxic: inhalation, dermal absorption, ingestion

TARGET ORGANS: central nervous system

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: kidney disorders, liver disorders,

respiratory disorders, skin disorders and allergies

MUTAGENIC DATA:

Not determined

REPRODUCTIVE EFFECTS DATA:

Not determined

HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE:

ISOPROPYL ALCOHOL: Human subjects exposed to 400 ppm for 3-5 minutes had mild irritation of the nose and throat. At 800 ppm the irritation was not severe but uncomfortable. Chest tightness and wheezing have also been reported in humans. Higher concentrations may cause effects as detailed in acute ingestion. The length of time required to produce deep narcosis in animals was inversely proportional to the concentration: The onset of deep narcosis ranged from 460 minutes at 3250 ppm to 100 minutes at 24,500 ppm.

CHRONIC EXPOSURE:

ISOPROPYL ALCOHOL: Mice subjected to 10900 ppm isopropyl alcohol in air for about 4 hours/day until they had accumulated 123 hours of exposure were narcotized but survived. Reversible fatty changes were observed in the liver. Male mice exposed to either 1000 or 5000 ppm of isopropyl alcohol vapor for 6 hours a day for 9 exposures exhibited hyaline droplet nephropathy. Reproductive effects have been reported in animals. There has been an increased incidence of cancer of the paranasal sinuses, and possibly of the larynx, in the manufacture of isopropyl alcohol by the strong acid process, involving the formation of isopropyl oils. It is not clear which substances are responsible.

SKIN CONTACT:

ACUTE EXPOSURE:

ISOPROPYL ALCOHOL: Contact with the skin may cause slight irritation. Contact dermatitis has been reported in a few sensitive individuals. Substance may be dermally absorbed resulting in systemic toxicity as detailed in acute ingestion. Toxic effects may become more marked if absorption and inhalation occur concurrently.

CHRONIC EXPOSURE:

ISOPROPYL ALCOHOL: Repeated or prolonged exposure may cause dermatitis due to the defatting action on the skin. Repeated and prolonged exposure to the skin of rabbits caused slight erythema, drying, and superficial desquamation.

EYE CONTACT:

ACUTE EXPOSURE:

ISOPROPYL ALCOHOL: May cause severe irritation with eye damage. In rabbit eyes, a drop caused mild transitory injury and a 50% aqueous solution after 3 minutes caused moderate irritation. Contact with a 70% solution caused conjunctivitis, iritis, and corneal opacity.

CHRONIC EXPOSURE:

ISOPROPYL ALCOHOL: Prolonged or repeated exposure to vapors may cause conjunctivitis.

INGESTION:

ACUTE EXPOSURE:

ISOPROPYL ALCOHOL: Ingestion may cause abdominal pain, hematemesis, nausea, vomiting, and hemorrhage. Central nervous system depression may occur with headache, dizziness, flushing, incoordination, hallucinations, stupor, confusion, hypotension, areflexia, and refractory narcosis. Oliguria followed by diuresis and coma may also occur. Other symptoms may include hypoglycemia, tenderness and edema of muscles, and arrhythmias. Vomiting with aspiration may cause aspiration pneumonia.

CHRONIC EXPOSURE:

ISOPROPYL ALCOHOL: No adverse effects resulted in humans following daily ingestion of 2.6 and 6.4 mg/kg for 6 weeks. Rats that ingested 0.5 to 10.0% isopropyl alcohol in drinking water for 27 weeks showed decreased body weight. Prolonged oral administration in rabbits produced anesthesia and death. Reproductive effects have been reported in animals.

SECTION 12 ECOLOGICAL INFORMATION

Not determined

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

SECTION 14 TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION:

DOT PSN Code: HWY

DOT Proper Shipping Name: ISOPROPANOL OR ISOPROPYL ALCOHOL

DOT Class: 3
DOT ID Number: UN1219
DOT Pack Group: II
DOT Label: FLAMMABLE LIQUID
IMO PSN Code: ITK
IMO Proper Shipping Name: ISOPROPYL ALCOHOL
IMO Regulations Page Number: 3244
IMO UN Number: 1219
IMO UN Class: 3.2
IMO Subsidiary Risk Label: -
IATA PSN Code: ONH
IATA UN ID Number: 1219
IATA Proper Shipping Name: ISOPROPANOL
IATA UN Class: 3
IATA Label: FLAMMABLE LIQUID

SECTION 15 REGULATORY INFORMATION

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:
EC CLASSIFICATION (CALCULATED): Not determined.

SECTION 16 OTHER INFORMATION

MSDS SUMMARY OF CHANGES
SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS
SECTION 3 HAZARDS IDENTIFICATION
SECTION 11 TOXICOLOGICAL INFORMATION

SAFETY DATA SHEET

Jasco Lacquer Thinner

Page: 1

Printed: 08/28/2014

Revision: 08/09/2014

Supersedes Revision: 12/05/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Jasco Lacquer Thinner
Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113
Phone Number: (901)775-0100
Web site address: www.wmbarr.com
Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892
Intended Use: Paint, stain, and varnish thinning.
Synonyms: CJLT70, GJLT70, QJLT70

2. HAZARDS IDENTIFICATION

Flammable Liquids, Category 2
Acute Toxicity: Inhalation, Category 4
Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 2
Germ Cell Mutagenicity, Category 1A
Toxic To Reproduction, Category 2
Target Organ Systemic Toxicity (single exposure), Category 1
Target Organ Systemic Toxicity (repeated exposure), Category 2
Aspiration Toxicity, Category 1



GHS Signal Word: Danger

GHS Hazard Phrases: H225: Highly flammable liquid and vapor.
H332: Harmful if inhaled.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H340: May cause genetic defects.
H361: Suspected of damaging fertility or the unborn child.
H370: Causes damage to organs.
H373: May cause damage to organs through prolonged or repeated exposure.
H304: May be fatal if swallowed and enters airways.

GHS Precaution Phrases: P233: Keep container tightly closed.
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P243: Take precautionary measures against static discharge.
P242: Use only non-sparking tools.
P271: Use only outdoors or in a well-ventilated area.
P261: Avoid breathing gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.
P260: Do not breathe gas/mist/vapours/spray.
P270: Do not eat, drink or smoke when using this product.

GHS Response Phrases: P370+378: In case of fire, use dry chemical to extinguish.

SAFETY DATA SHEET

Jasco Lacquer Thinner

Page: 2

Printed: 08/28/2014

Revision: 08/09/2014

Supersedes Revision: 12/05/2013

P303+361+353: IF ON SKIN or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312: Call a POISON CENTER/doctor if you feel unwell.

P302+352: IF ON SKIN: Wash with plenty of soap and water.

P321: Specific treatment see label.

P332+313: If skin irritation occurs, get medical advice/attention.

P362: Take off contaminated clothing.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+313: If eye irritation persists, get medical advice/attention.

P308+313: IF exposed or concerned: Get medical attention/advice.

P307+311: IF exposed: Call a POISON CENTER or doctor/physician.

P314: Get medical attention/advice if you feel unwell.

P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P331: Do NOT induce vomiting.

P403+235: Store in cool/well-ventilated place.

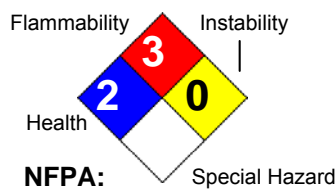
P501: Dispose of contents/container according to local, state and federal regulations.

P405: Store locked up.

GHS Storage and Disposal Phrases:

Hazard Rating System:

HEALTH	*	2
FLAMMABILITY		3
PHYSICAL		0
PPE		X



HMIS:

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic):

Inhalation Acute Exposure Effects:

Vapor harmful. May cause dizziness; headache; watering of eyes; irritation of respiratory tract; weakness; drowsiness; nausea; numbness in fingers, arms and legs; depression of central nervous system; loss of appetite; fatigue; hallucinations; light headedness; visual disturbances; giddiness and intoxication; sleepiness; cough and dyspnea; cold, clammy extremities; diarrhea; vomiting; dilation of pupils; spotted vision. Severe overexposure may cause convulsions; unconsciousness; coma; and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

Skin Contact Acute Exposure Effects:

May be absorbed through the skin. May cause irritation; numbness in the fingers and arms; drying of skin; and dermatitis. May cause increased severity of symptoms listed under inhalation.

Eye Contact Acute Exposure Effects:

This material is an eye irritant. May cause irritation; burns; conjunctivitis of eyes; and corneal ulcerations of the eye. Vapors may irritate eyes.

Ingestion Acute Exposure Effects:

Poison. Cannot be made non-poisonous. May be fatal or cause blindness. May cause dizziness; headache; nausea; vomiting; burning sensation in mouth, throat, and stomach; loss of coordination; depression of the central nervous system; narcosis; stupor; gastrointestinal irritation; liver, kidney, and heart damage; diarrhea; loss of appetite; coma and death. May produce symptoms listed under inhalation.

Chronic Exposure Effects:

SAFETY DATA SHEET

Jasco Lacquer Thinner

Page: 3

Printed: 08/28/2014

Revision: 08/09/2014

Supersedes Revision: 12/05/2013

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Prolonged or repeated contact may cause dermatitis. Prolonged skin contact may result in absorption of a harmful amount of this material. May cause conjunctivitis; gastric disturbances; insomnia; dizziness; headache; weakness; fatigue; nausea; heart palpitations; skin irritation; numbness in hands and feet; permanent central nervous system changes; some loss of memory; pancreatic damage; giddiness; visual impairment or blindness; kidney or liver damage; and death. May cause symptoms listed under inhalation.

Target Organs: Central Nervous System, Liver, Kidney, Heart, Stomach, Respiratory System

Primary Routes of Entry: Inhalation, Ingestion, Skin Absorption

Medical Conditions Generally Aggravated By Exposure: Diseases of the skin, eyes, liver, kidneys, central nervous system and respiratory system.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration	RTECS #
67-64-1	Acetone {2-Propanone}	<50.0 %	AL3150000
64742-89-8	Light aliphatic solvent naphtha (petroleum)	<=35.0 %	NA
108-88-3	Toluene {Benzene, Methyl-, Toluol}	<=31.5 %	XS5250000
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	<=35.0 %	PC1400000
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	<15.0 %	AH5425000
111-76-2	Ethanol, 2-Butoxy- {Ethylene glycol n-butyl ether, (a glycol ether)}	< 5.0 %	KJ8575000
98-56-6	4-Chlorobenzotrifluoride {4-Chloro-.alpha.,.alpha.,.alpha.-trifluorotoluene}	< 5.0 %	XS9145000
763-69-9	Ethyl 3-ethoxypropionate {Poptanoic acid, 3-ethoxy-,ethyl ester}	< 5.0 %	UF3325000
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	< 5.0 %	WJ8925000

Additional Chemical Information

Following products listed above may not be present in all formulas:

4-Chlorobenzotrifluoride (98-56-6), Light aliphatic solvent naphtha (petroleum), Ethyl 3-ethoxypropionate (763-69-9), Stoddard solvent (8052-41-3)

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

Skin:

Immediately begin washing the skin thoroughly with large amounts of water and mild soap, if available, while removing contaminated clothing. Seek medical attention if irritation persists.

Eyes:

Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes, then seek immediate medical attention.

Inhalation:

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

Ingestion:

If swallowed, do not induce vomiting. Seek immediate medical attention. Call a physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.

Signs and Symptoms Of Exposure:

See Potential Health Effects.

Note to Physician:

Poison. This product contains methanol. Methanol is metabolized to formaldehyde and formic acid. These metabolites may cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used as an antidote. Methanol is effectively removed by hemodialysis. Call your local poison control center for further information.

5. FIRE FIGHTING MEASURES

Flash Pt:

NFPA Class IB

< 15.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash)

Explosive Limits:

LEL: 1

UEL: 7

Autoignition Pt:

No data.

Suitable Extinguishing Media: Use carbon dioxide, dry powder, or foam.

Unsuitable Extinguishing Media:

Do not use a solid water stream, as this may spread the fire.

Fire Fighting Instructions:

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards:

No data available.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:

Vapors may cause flash fire or ignite explosively.

Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc.

Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:

Do not use in small enclosed spaces, such as basements and bathrooms. Vapors can accumulate and explode if ignited.

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms. Vapors can accumulate and explode if ignited.

Do not spread this product over large surface areas because fire and health safety risks will increase dramatically.

Precautions To Be Taken in Storing:

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
67-64-1	Acetone {2-Propanone}	PEL: 1000 ppm	TLV: 500 ppm STEL: 750 ppm	No data.
64742-89-8	Light aliphatic solvent naphtha (petroleum)	No data.	No data.	No data.
108-88-3	Toluene {Benzene, Methyl-; Toluol}	PEL: 200 ppm STEL: 500 ppm/(10min) CEIL: 300 ppm	TLV: 50 ppm	No data.

SAFETY DATA SHEET

Jasco Lacquer Thinner

Page: 6

Printed: 08/28/2014

Revision: 08/09/2014

Supersedes Revision: 12/05/2013

67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	PEL: 200 ppm	TLV: 200 ppm STEL: 250 ppm	No data.
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	PEL: 400 ppm	TLV: 400 ppm	No data.
111-76-2	Ethanol, 2-Butoxy- {Ethylene glycol n-butyl ether, (a glycol ether)}	PEL: 50 ppm	TLV: 20 ppm	No data.
98-56-6	4-Chlorobenzotrifluoride {4-Chloro-.alpha.,.alpha.,.alpha.-trifluorotoluene}	No data.	No data.	No data.
763-69-9	Ethyl 3-ethoxypropionate {Popanoic acid, 3-ethoxy-,ethyl ester}	No data.	No data.	No data.
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	PEL: 500 ppm	TLV: 100 ppm	No data.

Respiratory Equipment (Specify Type):

For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV.

For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.

Eye Protection:

Protect eyes with chemical splash goggles.

Protective Gloves:

Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile rubber may provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing:

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.):

Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering - Stop - ventilation is inadequate. Leave area immediately.

Work/Hygienic/Maintenance Practices:

Do not use in small enclosed spaces, such as basements and bathrooms.
A source of clean water should be available in the work area for flushing eyes and skin.
Do not eat, drink, or smoke in the work area.
Wash hands thoroughly after use.
Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use.
Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

SAFETY DATA SHEET

Jasco Lacquer Thinner

Page: 7

Printed: 08/28/2014

Revision: 08/09/2014

Supersedes Revision: 12/05/2013

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States: [] Gas [X] Liquid [] Solid

Appearance and Odor: Water White / Free and Clear

Melting Point: No data.

Boiling Point: 133.00 F

Autoignition Pt: No data.

Flash Pt: < 15.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash)

Explosive Limits: LEL: 1 UEL: 7

Specific Gravity (Water = 1): 0.7742 - 0.7942

Density: 6.518 LB/GL

Vapor Pressure (vs. Air or mm Hg): 115 MM HG at 68.0 F

Vapor Density (vs. Air = 1): > 1

Evaporation Rate: > 1

Solubility in Water: Slight

Viscosity: Water thin

Percent Volatile: 100.0 % by weight.

VOC / Volume: 600.0000 G/L

10. STABILITY AND REACTIVITY

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability: No data available.

Incompatibility - Materials To Avoid: Incompatible with strong oxidizing agents, strong caustics, hydrogen peroxide, and nitrates.

Hazardous Decomposition Or Byproducts: Decomposition may produce carbon monoxide; carbon dioxide; formaldehyde; and unidentified organic compounds in black smoke.

Possibility of Hazardous Reactions: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Reactions: No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information:	This product has not been tested as a whole. Information below will be for individual ingredients.
Chronic Toxicological Effects:	<p>CAS# 67-64-1: Standard Draize Test, Eyes, Species: Rabbit, 20.00 MG, Severe. Result: Behavioral: Change in motor activity (specific assay). Behavioral: Alteration of classical conditioning. - American Journal of Ophthalmology., Ophthalmic Pub. Co., 435 N. Michigan Ave., Suite 1415, Chicago, IL 60611, Vol/p/yr: 29,1363, 1946</p> <p>CAS# 108-88-3: Reproductive Effects:, TCLo, Inhalation, Mouse, 500.0 MG/M3, 24 H, female 6-13 day(s) after conception. Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). - Toxicology., Elsevier Scientific Pub. Ireland, Ltd., POB 85, Limerick Ireland, Vol/p/yr: 11,55, 1978</p> <p>Standard Draize Test, Skin, Species: Rabbit, 20.00 MG, 24 H, Moderate. Result: Cardiac: Pulse rate decreased with fall in BP. Lungs, Thorax, or Respiration:Other changes. - Prehled Prumyslove Toxikologie, Marhold, J., Organicke Latky, Prague Czechoslovakia, Vol/p/yr: -,29, 1986</p> <p>CAS# 111-76-2: Acute toxicity, LC50, Inhalation, Rat, 450.0 PPM, 4 H. Result: Behavioral: Ataxia. Nutritional and Gross Metabolic:Weight loss or decreased weight gain. - Toxicology and Applied Pharmacology, Academic Press, Inc., 1 E. First St., Duluth, MN 55802, Vol/p/yr: 68,405, 1983</p> <p>This product has not been tested as a whole. Information below will be for individual ingredients.</p>
Carcinogenicity/Other Information:	<p>IARC 3: Not Classifiable as to Carcinogenicity in Humans ACGIH A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans ACGIH A4 - Not Classifiable as a Human Carcinogen</p>

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
67-64-1	Acetone {2-Propanone}	n.a.	n.a.	A4	n.a.
64742-89-8	Light aliphatic solvent naphtha (petroleum)	n.a.	n.a.	n.a.	n.a.
108-88-3	Toluene {Benzene, Methyl-; Toluol}	n.a.	3	A4	n.a.
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	n.a.	n.a.	n.a.	n.a.
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	n.a.	n.a.	n.a.	n.a.

SAFETY DATA SHEET

Jasco Lacquer Thinner

Page: 9

Printed: 08/28/2014

Revision: 08/09/2014

Supersedes Revision: 12/05/2013

111-76-2	ether}}	n.a.	3	A3	n.a.
98-56-6	4-Chlorobenzotrifluoride {4-Chloro-.alpha.,.alpha.,.alpha.-trifluorotoluene}	n.a.	n.a.	n.a.	n.a.
763-69-9	Ethyl 3-ethoxypropionate {Popanoic acid, 3-ethoxy-,ethyl ester}	n.a.	n.a.	n.a.	n.a.
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

General Ecological Information: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of in accordance with all applicable local, state, and federal regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Paint Related Material

DOT Hazard Class: 3 FLAMMABLE LIQUID

UN/NA Number: UN1263

Packing Group: II



Additional Transport Information: For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

The shipper/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.

15. REGULATORY INFORMATION

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Acute (immediate) Health Hazard
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Chronic (delayed) Health Hazard
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Fire Hazard
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Sudden Release of Pressure Hazard
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Reactive Hazard

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
67-64-1	Acetone {2-Propanone}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; CA PROP.65: No
64742-89-8	Light aliphatic solvent naphtha (petroleum)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
108-88-3	Toluene {Benzene, Methyl-; Toluol}	CAA HAP,ODC: HAP; CWA NPDES: Yes; TSCA: Yes - Inventory, 8A CAIR; CA PROP.65: Yes
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: Yes
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; CA PROP.65: No
111-76-2	Ethanol, 2-Butoxy- {Ethylene glycol n-butyl ether,	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes -

SAFETY DATA SHEET

Jasco Lacquer Thinner

Page: 10

Printed: 08/28/2014

Revision: 08/09/2014

Supersedes Revision: 12/05/2013

	(a glycol ether)}	Inventory; CA PROP.65: No
98-56-6	4-Chlorobenzotrifluoride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes -
	{4-Chloro-.alpha.,.alpha.,.alpha.-trifluorotoluene}	Inventory, 4 Test; CA PROP.65: No
763-69-9	Ethyl 3-ethoxypropionate {Papanoic acid,	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes -
	3-ethoxy-,ethyl ester}	Inventory; CA PROP.65: No
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes -
	Petroleum Distillates; White spirits}	Inventory; CA PROP.65: No

16. OTHER INFORMATION

Revision Date: 08/09/2014

Preparer Name: W.M. Barr EHS Dept (901)775-0100

Additional Information About No data available.

This Product:

Company Policy or

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.

SAFETY DATA SHEET

Jasco Methyl Ethyl Ketone MEK

Page: 1

Printed: 10/06/2014

Revision: 09/04/2014

Supersedes Revision: 01/20/2009

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Jasco Methyl Ethyl Ketone MEK
Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113
Phone Number: (901)775-0100
Web site address: www.wmbarr.com
Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892
Intended Use: Paint, stain, and varnish thinning.
Synonyms: CJME71, GJME71, GJME180

2. HAZARDS IDENTIFICATION

Flammable Liquids, Category 2

Serious Eye Damage/Eye Irritation, Category 2A

Target Organ Systemic Toxicity (single exposure), Category 3



GHS Signal Word: Danger

GHS Hazard Phrases: H225: Highly flammable liquid and vapor.
H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness.

GHS Precaution Phrases: P233: Keep container tightly closed.
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P243: Take precautionary measures against static discharge.
P242: Use only non-sparking tools.
P264: Wash hands thoroughly after handling.
P261: Avoid breathing gas/mist/vapours/spray.
P271: Use only outdoors or in a well-ventilated area.

GHS Response Phrases: P370+378: In case of fire, use dry chemical to extinguish.
P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313: If eye irritation persists, get medical advice/attention.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312: Call a POISON CENTER/doctor if you feel unwell.

GHS Storage and Disposal Phrases: P403+235: Store in cool/well-ventilated place.
P501: Dispose of contents/container according to local, state and federal regulations.
P403+233: Store container tightly closed in well-ventilated place - if product is as volatile as to generate hazardous atmosphere.
P405: Store locked up.

SAFETY DATA SHEET

Jasco Methyl Ethyl Ketone MEK

Page: 2

Printed: 10/06/2014

Revision: 09/04/2014

Supersedes Revision: 01/20/2009

Hazard Rating System:



OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic):

Inhalation Acute Exposure Effects:

Vapor harmful. May cause dizziness, headache, watering of eyes, irritation of respiratory tract, drowsiness, nausea, and numbness in fingers, arms, and legs.

Skin Contact Acute Exposure Effects:

May cause drying of skin, and numbness in fingers and arms. Liquid is absorbed readily.

Eye Contact Acute Exposure Effects:

This material is an eye irritant. May cause irritation and pain, conjunctivitis of eyes, burns, corneal ulcerations of the eye, stinging, redness, and tearing. Vapors or mist can irritate eyes.

Ingestion Acute Exposure Effects:

Harmful if swallowed. May cause dizziness, headache, nausea, and irritation of mouth, throat, and stomach.

Chronic Exposure Effects:

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. May cause weakness, fatigue, skin irritation, and numbness in hands and feet.

Medical Conditions Generally None known.

Aggravated By Exposure:

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
78-93-3	Methyl ethyl ketone {MEK; 2-Butanone}	99.0 -100.0 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

Inhalation:

If user experiences breathing difficulty, move to air free of vapors. Administer oxygen or artificial respiration until medical assistance can be rendered.

Skin Contact:

Irritation may result. Immediately wash with soap and water.

Eye Contact:

Immediately flush with water, remove any contact lenses, continue flushing with water for at least 15 minutes, then get medical attention.

Ingestion:

Call you local poison control center, hospital emergency room, or physician immediately for instructions.

Note to Physician:

Call your local poison control center for further information.

5. FIRE FIGHTING MEASURES

	OSHA Class IB
Flash Pt:	25.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash)
Explosive Limits:	LEL: 1.8 % at 77.0 F UEL: 11.5 % at 77.0 F
Autoignition Pt:	759.00 F
Suitable Extinguishing Media:	Use carbon dioxide, dry powder, or foam.
Fire Fighting Instructions:	Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.
Flammable Properties and Hazards:	No data available.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:	<p>Cleanup: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area.</p> <p>Small Spills: Take up liquid with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.</p> <p>Large Spills: Dike far ahead of spill for later disposal.</p>
---	---

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:	Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.
Precautions To Be Taken in Storing:	Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
78-93-3	Methyl ethyl ketone {MEK; 2-Butanone}	PEL: 200 ppm	TLV: 200 ppm STEL: 300 ppm	No data.
Respiratory Equipment (Specify Type):	For OSHA controlled work place and other regular users --Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provided protection against vapors.			
Eye Protection:	Safety glasses, chemical goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.			
Protective Gloves:	Wear gloves resistant to MEK. Consult with your safety supplier for the proper glove material depending on your specific use and conditions. Gloves contaminated with			

SAFETY DATA SHEET

Jasco Methyl Ethyl Ketone MEK

Page: 4

Printed: 10/06/2014

Revision: 09/04/2014

Supersedes Revision: 01/20/2009

product should be discarded. Promptly remove clothing that becomes soiled with product.

Other Protective Clothing:

Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

**Engineering Controls
(Ventilation etc.):**

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

**Work/Hygienic/Maintenance
Practices:**

A source of clean water should be available in the work area for flushing eyes and skin. Do not eat, drink, or smoke in the work area. Wash hands thoroughly after use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[] Gas [X] Liquid [] Solid
Appearance and Odor:	Characteristic ketone odor.
Melting Point:	No data.
Boiling Point:	175.00 F
Autoignition Pt:	759.00 F
Flash Pt:	25.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash)
Explosive Limits:	LEL: 1.8 % at 77.0 F UEL: 11.5 % at 77.0 F
Specific Gravity (Water = 1):	0.8
Density:	6.689 LB/GL at 77.0 F
Vapor Pressure (vs. Air or mm Hg):	83 MM HG at 75.0 F
Vapor Density (vs. Air = 1):	< 1
Evaporation Rate:	> 1
Solubility in Water:	Partially
Percent Volatile:	99.999 % by weight.
VOC / Volume:	825.0000 G/L

SAFETY DATA SHEET

Jasco Methyl Ethyl Ketone MEK

Page: 5
Printed: 10/06/2014
Revision: 09/04/2014
Supersedes Revision: 01/20/2009

10. STABILITY AND REACTIVITY

Stability: Unstable [☐] Stable [☒]
Conditions To Avoid - No data available.
Instability:
Incompatibility - Materials To Avoid: Incompatible with strong oxidizing agents, strong caustics, and hydrogen peroxide.
Hazardous Decomposition Or Byproducts: Decomposition may produce carbon monoxide and oxides of carbon.
Possibility of Hazardous Reactions: Will occur [☐] Will not occur [☒]
Conditions To Avoid - No data available.
Hazardous Reactions:

11. TOXICOLOGICAL INFORMATION

Toxicological Information: No data available.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
78-93-3	Methyl ethyl ketone {MEK; 2-Butanone}	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Methyl ethyl ketone

DOT Hazard Class: 3 FLAMMABLE LIQUID

UN/NA Number: UN1193 **Packing Group:** II



Additional Transport Information: For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

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.

15. REGULATORY INFORMATION

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[X] Yes [<input type="checkbox"/>] No	Acute (immediate) Health Hazard
[X] Yes [<input type="checkbox"/>] No	Chronic (delayed) Health Hazard
[X] Yes [<input type="checkbox"/>] No	Fire Hazard
[<input type="checkbox"/>] Yes [X] No	Sudden Release of Pressure Hazard
[<input type="checkbox"/>] Yes [X] No	Reactive Hazard

SAFETY DATA SHEET

Jasco Methyl Ethyl Ketone MEK

Page: 6

Printed: 10/06/2014

Revision: 09/04/2014

Supersedes Revision: 01/20/2009

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
78-93-3	Methyl ethyl ketone {MEK; 2-Butanone}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

Regulatory Information: This product has been classified according to the hazard criteria of the Controlled Products Regulations.

Regulatory Information Statement: All components of this material are listed on the TSCA Inventory or are exempt.

16. OTHER INFORMATION

Revision Date: 09/04/2014

Preparer Name: W.M. Barr EHS Department (901)775-0100

Additional Information About This Product: No data available.

Company Policy or 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.

00014-XXXX

MATERIAL SAFETY DATA SHEET
For Coatings, Resins and Related Materials**SECTION I - PRODUCT IDENTIFICATION**

Manufacturer Van Aken International
9157 Rochester Court, P.O. Box 1680
Rancho Cucamonga, CA 91729-1680

Information Phone: (909) 945-5490
Emergency Phone: (909) 945-5490

Product Class : Polymer Emulsion
Trade Name : Jazz Gloss Tempera (All Colors)
Product Code : 50000 Series

**SECTION II - HAZARDOUS INGREDIENTS**

This product is certified by an authority on toxicology associated with a leading University to contain no materials in sufficient quantities to be toxic or injurious to the human body, even if ingested.



MEETS PERFORMANCE STANDARD 1.
CONFORMS TO ASTM D-4236

V-4573

SECTION III - PHYSICAL DATA

Boiling Range :	Approx. 212 F/100 C	Vapor Density :	Lighter than air.
Evap. Rate :	Slower than ether	Specific Gravity:	1.17
Volatiles volume :	35	Wgt per gallon :	9.45 - 10.04 lbs/g
Appearance :	Bodied liquid, various colors, faint ester odor.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class :	N/A	Flash Point	N/A
Extinguishing Media :	Water, Foam, Carbon Dioxide, or Dry Chemical		
Special Firefighting Procedures :	None		
Unusual Fire & Explosion Hazards :	None		

SECTION V - HEALTH HAZARD DATA

Primary Route of Exposure:	Inhalation: Yes	Skin Absorption: No	Ingestion: Yes
Effects of Overexposure :	None Known		
First Aid :			

Ingestion : No first aid is normally required, however, if swallowed and symptoms develop, seek medical attention.

Eye Contact : Flush with cold water, if irritation persists seek medical attention.

Skin Contact : Wash with soap and warm water.

Inhalation: Remove to fresh air.

JAZZ GLOSS 50000 SERIES CONTINUED.

SECTION VI - REACTIVITY DATA

Stability : Stable
Hazardous Polymerization : Will not occur.
Hazardous Decomposition Products: Combustion may yield Carbon Monoxide and/or Carbon Dioxide.
Incompatibility : None
Conditions To Avoid : Extreme heat.

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled : Wipe up spills, may use soap and water as necessary for cleaning.
Waste disposal method : In accordance with Local, County, State and Federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection : Wear approved dust-mist respirator when used in spray application.
Ventilation : Use in a well ventilated area.
Protective Gloves : Not normally needed.
Eye Protection : Not normally needed.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storing : Store in cool, dry place. Avoid extreme heat. Practice reasonable care and caution.
Other Precautions : None.

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information in this document is believed to be correct as of the date issued. 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 THIS INFORMATION, 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. This information and product are furnished on the conditions that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

J-B Weld Company

P.O. Box 483
1130 Como Street
Sulphur Springs, TX 75482
Tel: (903) 885-7696
Fax: (903) 885-5911

SECTION I - IDENTIFICATION OF PRODUCT

PRODUCT NAME:	J B WELD KWIK EPOXY STEEL HARDENER - PART B
PRODUCT CODE:	(48094), 48148, 48150, 48178, 48191
REFERENCE:	Epoxy Steel Hardener
SCHEDULE B NUMBER:	3214.10.0090

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	WGT%	CAS #	TLV/PEL
Calcium Carbonate	5-10%	1317-65-3	ACGIH TWA 10 mg/m ³
		471-34-1	OSHA PEL 15 mppcf
Non-fibrous Talc	15-25%	14807-96-6	ACGIH TWA 2 mg/m ³
			OSHA PEL 20 mppcf
Barium Sulfate	35-45%	7727-43-7	ACGIH TWA 10 mg/m ³
			OSHA 15 mg/m ³ Total dust
			OSHA 15 mg/m ³ Respirable dust
Alkyl Phenol	1-5 %	25154-52-3	N/E
Mercaptan terminated polymer	20-30%	Trade Secret	NE
2,4,6 [(Dimethylamino)methyl] phenol	1-5 %	90-72-2	N/E
Amorphous Silica	1-5 %	112945-52-5	ACGIH TWA 10 mg/m ³
			5 mg/m ³ (respirable)

SECTION III - PHYSICAL DATA

APPEARANCE: White paste
SPECIFIC GRAVITY: 1.87
VAPOR PRESSURE (mmHG): N/Av
BOILING POINT: N/E
VAPOR DENSITY: Heavier than air
EVAPORATION RATE (Ethyl Ether = 1): Slower than Ethyl Ether
VOLATILES BY WEIGHT: Nil
SOLUBILITY IN WATER: Not soluble
VOC: Grams/Liter = 4
 Lbs/Gallon = 0.03

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT: >200°F/93°C Seta Flash Closed cup

LOWER FLAMMABLE LIMIT %: N/E

UPPER FLAMMABLE LIMIT %: N/E

FIRE EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam

SPECIAL FIRE FIGHTING PROCEDURES: Fight like a fuel oil fire. Cool fire exposed containers with water spray. Firefighter should wear OSHA/NIOSH approved self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARD: Closed containers exposed to high temperatures, such as fire conditions may rupture.

SECTION V - HEALTH HAZARD/TOXICOLOGICAL PROPERTIES

OVEREXPOSURE EFFECTS:

ACUTE EFFECTS:

EYES: Contact with eyes can cause severe irritation, possible irreparable eye damage.

SKIN: Contact with skin can cause irritation, (minor itching, burning and/or redness), Dermatitis, defatting may be readily absorbed through the skin.

INHALATION: Inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and/or asphyxiation. Aspiration of material into lungs may result in chemical pneumonitis which can be fatal.

INGESTION: Ingestion can cause gastrointestinal irritation, nausea, vomiting, diarrhea.

CHRONIC EFFECTS:

Overexposure to this material has apparently been known to cause the following effects in lab animals: lung damage and/or allergic reaction

CARCINOGEN: YES _____ NO X

TERATOGEN: YES _____ NO X

MUTAGEN: YES _____ NO X

ROUTES OF EXPOSURE: skin, inhalation

FIRST AID:

INHALATION: If inhaled, remove victim from exposure to a well-ventilated area. Make them comfortably warm, but not hot. Use oxygen or artificial respiration as required. Consult a physician.

SKIN: For skin contact, wash promptly with soap and excess water.

EYES: For eye contact, flush promptly with excess water for at least fifteen minutes. Consult a physician.

INGESTION: If ingested, do not induce vomiting. Give victim a glass of water. Call a physician immediately.

SECTION VI - REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: Open flames, and heat.

INCOMPATIBILITY MATERIALS TO AVOID: Strong acids, alkalis, oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, Carbon Monoxide and Carbon.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION VII - SPILL AND DISPOSAL PROCEDURE

SPILLS, LEAK OR RELEASE: Ventilate area. Remove all possible sources of ignition. Avoid prolonged breathing of vapor. Contain spill with inert absorbent.

WASTE DISPOSAL: Dispose of in accordance with local, state, and federal regulations.

SECTION VIII - PROTECTION INFORMATION

RESPIRATORY PROTECTION: If component TLV limits are exceeded, use NIOSH/MSHA approved respirator to remove vapors. Use an air-supplied respirator if necessary. With general ventilation, does not require a respirator.

VENTILATION: Use adequate ventilation in volume and pattern to keep TLV/PEL below recommended levels. Explosion-proof ventilation may be necessary.

PROTECTIVE GLOVES: To prevent prolonged exposure use rubber gloves; solvents may be absorbed through the skin

EYE PROTECTION: Safety Glasses or goggles with splash guards or side shields.

OTHER PROTECTIVE EQUIPMENT: Wear protective clothing as required to prevent skin contact.

SECTION IX - HANDLING AND STORAGE PRECAUTIONS

STORAGE AND HANDLING: Use with adequate ventilation. Avoid contact with eyes and skin. Avoid breathing vapors. Do not store the product above 100°F/38°C. Do not flame, cut, braze weld or melt empty containers. Keep the product away from heat, open flame, and other sources of ignition. Avoid contact with strong acids, alkalis and oxidizers.

SECTION X - ADDITIONAL INFORMATION

SHIPPING INFORMATION: Please comply with DOT regulations in USA

HMIS RATING:

Health	2	4 = Extreme
Fire	2	3 = High
Reactivity	2	2 = Moderate
		1 = Slight
		0 = Insignificant

Personal Protection - See Section VIII

CALIFORNIA PROPOSITION 65:

Trace amounts of some chemicals known to the State of California to cause cancer, birth defects or other reproductive harm may be present in this product.

SECTION 313 SUPPLIER NOTIFICATION:

This product contains the following toxic chemicals subject to the reporting requirements of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372:

CHEMICAL NAME	CAS	% BY WGT
---------------	-----	----------

N/Ap

THIS INFORMATION MUST BE INCLUDED IN ALL MSDS THAT ARE COPIED AND DISTRIBUTED FOR THIS CHEMICAL

=====

ABBREVIATIONS

=====

IARC = International Agency for Research on Cancer
ACGIH = American Conference of Governmental Industrial Hygienists
NIOSH = National Institute of Occupational Safety and Health
TLV = Threshold Limit Value
PEL = Permissible Emission Level
DOT = Department of Transportation
NTP = National Toxicology Program
N/AV = Not Available
N/AP = Not Applicable
N/E = Not Established
N/D = Not Determined

PREPARED BY:

J-B Weld Company

P.O. Box 483
1130 Como Street
Sulphur Springs, TX 75482
Tel: (903) 885-7696
Fax: (903) 885-5911

REVIEWED ON
SUPERSEDES
REVISION

May 17, 2004
March 1, 2003
Format

The information in the Material Safety Data Sheet has been compiled from our experience and from data presented in various technical publications. It is the user's responsibility to determine the suitability of this information for the adoption of the safety precautions as may be necessary. We reserve the right to revise Material Safety Data Sheets from time to time as new technical information becomes available. The user has the responsibility to contact the Company to make sure that the MSDS is the latest one issued.

J-B Weld Company

P.O. Box 483
1130 Como Street
Sulphur Springs, TX 75482
Tel: (903) 885-7696
Fax: (903) 885-5911

SECTION I - IDENTIFICATION OF PRODUCT

PRODUCT NAME: J B WELD KWIK EPOXY STEEL RESIN - VC-6 PART A
PRODUCT CODE: (48009), 48149, 48151, 48177, 48190
REFERENCE: Resin Solution
SCHEDULE B NUMBER: 3506.91.0000

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	WGT%	CAS #	TLV/PEL
Calcium Carbonate	40-50%	1317-65-3	ACGIH TLV: 10 mg/m ³ OSHA: PEL 15 mppcf
Iron Powder	10-20%	65997-19-5	ACGIH TLV: 15 mg/m ³ OSHA: PEL 15 mppcf
Epoxy Resin	30-40%	25068-38-6	N/E
Aromatic Hydrocarbons	1-5 %	64742-94-5	N/E

SECTION III - PHYSICAL DATA

APPEARANCE: Dark gray or black smooth paste
SPECIFIC GRAVITY: 1.80
VAPOR PRESSURE (mmHG): N/Av
BOILING POINT: N/E
VAPOR DENSITY (Air = 1): >1
EVAPORATION RATE (Ethyl Ether = 1): Slower than Ethyl Ether
VOLATILES BY WEIGHT: N/D
SOLUBILITY IN WATER: Not soluble
VOC: Grams/Liter = Nil
Lbs/Gallon = Nil

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT: >200°F/93°C Seta Flash Closed cup

LOWER FLAMMABLE LIMIT %: N/E

UPPER FLAMMABLE LIMIT %: N/E

FIRE EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam

SPECIAL FIRE FIGHTING PROCEDURES: Fight like a fuel oil fire. Cool fire exposed containers with water spray. Firefighter should wear OSHA/NIOSH approved self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARD: Closed containers exposed to high temperatures, such as fire conditions may rupture.

SECTION V - HEALTH HAZARD/TOXICOLOGICAL PROPERTIES

OVEREXPOSURE EFFECTS:

ACUTE EFFECTS:

EYES: Contact with eyes can cause severe irritation, possible irreparable eye damage.

SKIN: Contact with skin can cause irritation, (minor itching, burning and/or redness), Dermatitis, defatting may be readily absorbed through the skin.

INHALATION: Inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and/or asphyxiation. Aspiration of material into lungs may result in chemical pneumonitis which can be fatal.

INGESTION: Ingestion can cause gastrointestinal irritation, nausea, vomiting, diarrhea.

CHRONIC EFFECTS:

Overexposure to this material has apparently been known to cause the following effects in lab animals:
lung damage and/or allergic reaction

CARCINOGEN: YES ☐ NO ☒

TERATOGEN: YES ☐ NO ☒

MUTAGEN: YES ☐ NO ☒

ROUTES OF EXPOSURE: skin, inhalation

FIRST AID:

INHALATION: If inhaled, remove victim from exposure to a well-ventilated area. Make them comfortably warm, but not hot. Use oxygen or artificial respiration as required. Consult a physician.

SKIN: For skin contact, wash promptly with soap and excess water.

EYES: For eye contact, flush promptly with excess water for at least fifteen minutes. Consult a physician.

INGESTION: If ingested, do not induce vomiting. Give victim a glass of water. Call a physician immediately.

SECTION VI - REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: Open flames, sparks, and heat.

INCOMPATIBILITY MATERIALS TO AVOID: Strong acids, alkalis, oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, Carbon Monoxide and Carbon.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION VII - SPILL AND DISPOSAL PROCEDURE

SPILLS, LEAK OR RELEASE: Ventilate area. Remove all possible sources of ignition. Avoid prolonged breathing of vapor. Contain spill with inert absorbent.

WASTE DISPOSAL: Dispose of in accordance with local, state, and federal regulations.

SECTION VIII - PROTECTION INFORMATION

RESPIRATORY PROTECTION: If component TLV limits are exceeded, use NIOSH/MSHA approved respirator to remove vapors. Use an air-supplied respirator if necessary. With general ventilation, does not require a respirator.

VENTILATION: Use adequate ventilation in volume and pattern to keep TLV/PEL below recommended levels. Explosion-proof ventilation may be necessary.

PROTECTIVE GLOVES: To prevent prolonged exposure use rubber gloves; solvents may be absorbed through the skin

EYE PROTECTION: Safety Glasses or goggles with splash guards or side shields.

OTHER PROTECTIVE EQUIPMENT: Wear protective clothing as required to prevent skin contact.

SECTION IX - HANDLING AND STORAGE PRECAUTIONS

STORAGE AND HANDLING: Use with adequate ventilation. Avoid contact with eyes and skin. Avoid breathing vapors. Do not store the product above 100°F/38°C. Do not flame, cut, braze weld or melt empty containers. Keep the product away from heat, open flame, and other sources of ignition. Avoid contact with strong acids, alkalis and oxidizers.

SECTION X - ADDITIONAL INFORMATION

SHIPPING INFORMATION: Please comply with DOT regulations in USA

HMIS RATING:	Health	2	4 = Extreme
	Fire	1	3 = High
	Reactivity	1	2 = Moderate
			1 = Slight
			0 = Insignificant

Personal Protection - See Section VIII

CALIFORNIA PROPOSITION 65:

Trace amounts of epichlorohydrin, a chemical known to the State of California to cause cancer, is present in this product. However, given the low level and application of this product, typical uses do not constitute a significant risk under the standard.

SECTION 313 SUPPLIER NOTIFICATION:

This product contains the following toxic chemicals subject to the reporting requirements of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372:

<u>CHEMICAL NAME</u>	<u>CAS</u>	<u>% BY WGT</u>
----------------------	------------	-----------------

N/Ap

THIS INFORMATION MUST BE INCLUDED IN ALL MSDS THAT ARE COPIED AND DISTRIBUTED FOR THIS CHEMICAL

=====

ABBREVIATIONS

=====

IARC = International Agency for Research on Cancer
ACGIH = American Conference of Governmental Industrial Hygienists
NIOSH = National Institute of Occupational Safety and Health
TLV = Threshold Limit Value
PEL = Permissible Emission Level
DOT = Department of Transportation
NTP = National Toxicology Program
N/AV = Not Available
N/AP = Not Applicable
N/E = Not Established
N/D = Not Determined

PREPARED FOR:

J-B Weld Company

P.O. Box 483
1130 Como Street
Sulphur Springs, TX 75482
Tel: (903) 885-7696
Fax: (903) 885-5911

REVIEWED ON
SUPERSEDES
REVISION

May 17, 2004
March 1, 2003
Format

The information in the Material Safety Data Sheet has been compiled from our experience and from data presented in various technical publications. It is the user's responsibility to determine the suitability of this information for the adoption of the safety precautions as may be necessary. We reserve the right to revise Material Safety Data Sheets from time to time as new technical information becomes available. The user has the responsibility to contact the Company to make sure that the MSDS is the latest one issued.



MATERIAL SAFETY DATA SHEET

HYDRO-STONE® Gypsum Cement

MSDS #52-140-052

Page 1 of 9

SECTION 1

CHEMICAL PRODUCT AND IDENTIFICATION

United States Gypsum Company
550 West Adams Street
Chicago, Illinois 60661-3637
A Subsidiary of USG Corporation

Product Safety: 1 (800) 507-8899
www.usg.com
Version Date: January 1, 2014
Version: 7

PRODUCT(S) HYDRO-STONE® Gypsum Cement

CHEMICAL FAMILY / GENERAL CATEGORY Industrial Products, Tooling and Prototyping

SYNONYMS Formulated product containing Plaster of Paris (Calcium Sulfate Hemihydrate) (CaSO₄•½H₂O)

SECTION 2

HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

ΔWARNING!

This product is not expected to produce any unusual hazards during normal use. Exposure to high dust levels may irritate the skin, eyes, nose, throat, or upper respiratory tract. Portland cement is a nuisance dust. However, portland cement is strongly alkaline and can cause severe injury. Contact with eyes or skin can cause irritation and possible irreversible tissue damage, corrosion damage, chemical burning and corneal damage. Wear eye and skin protection.

POTENTIAL HEALTH EFFECTS (See Section 11 for more information)

ACUTE :

Inhalation	Exposure to dust generated during the handling or use of the product may cause temporary irritation to eyes, skin, nose, throat, and upper respiratory tract. Persons subjected to large amounts of this dust will be forced to leave area because of nuisance conditions such as coughing, sneezing and nasal irritation. Labored breathing may occur after excessive inhalation. If respiratory symptoms persist, consult physician. Inhalation of portland cement dust can irritate or burn the nose, throat, and mucous membrane of the upper respiratory tract. Signs of excessive exposure to this dust include shortness of breath and reduced pulmonary function. If respiratory symptoms persist, consult physician.
Eyes	Dust can cause temporary mechanical irritation of eyes. If burning, redness, itching, pain or other symptoms persist or develop, consult physician. Portland Cement is a strongly alkaline material and is very irritating to eyes. The extent of damage depends on duration of contact. Rapid response is very important to prevent significant damage to the eye (See Section 4, First Aid Measures). Portland cement can cause burns and cornea damage that may result in permanent damage with risk of blindness. Contact lenses should not be worn when working with portland cement. If burning, redness, itching, pain or other symptoms persist or develop, consult physician.
Skin	None known.
Ingestion	None known.

CHRONIC:

Inhalation	Exposures to respirable crystalline silica are not expected during the normal use of this product; however, actual levels must be determined by workplace hygiene testing. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease (i.e., silicosis) and/or
------------	---



MATERIAL SAFETY DATA SHEET

HYDRO-STONE® Gypsum Cement

MSDS #52-140-052

Page 2 of 9

	lung cancer. The development of silicosis may increase the risks of additional health effects. The risk of developing silicosis is dependent upon the exposure intensity and duration.
Eyes	None known.
Skin	None known.
Ingestion	None known.

TARGET ORGANS: Eyes, skin and respiratory system.**PRIMARY ROUTES OF ENTRY:** Inhalation, eyes and skin contact.

CARCINOGENICITY CLASSIFICATION OF INGREDIENT(S) All substances listed are associated with the nature of the raw materials used in the manufacture of this product and are not independent components of the product formulation. All substances, if present, are at levels well below regulatory limits. See Section 11: Toxicology Information for detailed information.

MATERIAL	IARC	NTP	ACGIH	CAL- 65
Crystalline silica	1	1	A2	Listed

IARC - International Agency for Research on Cancer: 1- Carcinogenic to humans; 2A – Probably carcinogenic to humans; 2B – Possibly carcinogenic to humans; 3 - Not classifiable as a carcinogen; 4 – Probably not a carcinogen

NTP – National Toxicology Program (Health and Human Services Dept., Public Health Service, NIH/NIEHS): 1- Known to be carcinogen; 2- Anticipated to be carcinogens

ACGIH – American Conference of Governmental Industrial Hygienists: A1 – Confirmed human carcinogen; A2 – Suspected human carcinogen; A3 – Animal carcinogen; A4 - Not classifiable as a carcinogen; A5 – Not suspected as a human carcinogen

CAL-65 – California Proposition 65 “Chemicals known to the State of California to Cause Cancer”

Respirable crystalline silica: IARC: Group 1 carcinogen, NTP: Known human carcinogen. The weight percent of crystalline silica given represents total quartz and not the respirable fraction. The weight percent of respirable silica has not been measured in this product.

POTENTIAL ENVIRONMENTAL EFFECTS: Toxicity studies performed with fish, aquatic invertebrates and aquatic plants showed no toxic effect. Portland cement is expected to be toxic to fish due to its high alkalinity (pH > 12). Discharge of large quantities directly into waterways would be expected to cause significant fish kills. (See Section 12 for more information.)

SECTION 3

COMPOSITION, INFORMATION ON INGREDIENTS

MATERIAL	WT%	CAS #
Plaster of Paris ($\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$)	>95	26499-65-0
Portland Cement	<5	65997-15-1
Crystalline Silica	<5	14808-60-7^

All ingredients of this product are included in the U.S. Environmental Protection Agency's Toxic Substances Control Act Chemical Substance Inventory and the Canadian Domestic Substances List (DSL).

^The weight percent for silica represents total quartz and not the respirable fraction.

SECTION 4

FIRST AID MEASURES



MATERIAL SAFETY DATA SHEET

HYDRO-STONE® Gypsum Cement

MSDS #52-140-052

Page 3 of 9

FIRST AID PROCEDURES

Inhalation	Remove to fresh air. Leave the area of exposure and remain away until coughing and other symptoms subside. Other measures are usually not necessary, however if conditions warrant, contact physician.
Eyes	In case of contact, do not rub or scratch your eyes. Due to portland cement content in this product, if eye contact occurs immediately flush eyes with copious amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this material.
Skin	To prevent the drying effect of plaster of paris, wash with mild soap and water. A commercially available hand lotion may be used to treat dry skin areas. If skin has become cracked, take appropriate action to prevent infection and promote healing. If irritation persists, consult physician. Because of the potential of chemical burns due to the portland cement content of this product, flush exposed skin with copious amounts of water for at least 15 minutes depending on concentration, amount and duration of exposure. Wash with mild soap and water. Immediately remove all contaminated clothing, including footwear. Launder clothing before reuse. If irritation or pain persists get medical attention immediately. A commercially available hand lotion may be used to treat dry skin areas. If skin has become cracked, take appropriate action to prevent infection and promote healing. If irritation persists, consult physician.
Ingestion	Plaster of paris hardens and, if ingested, may result in obstruction of the gut, especially the pyloric region. Drinking gelatin solutions or large volumes of water may delay setting. Due to the alkalinity caused by the portland cement content of this product, get medical attention immediately.

MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED: Pre-existing upper respiratory and lung diseases such as, but not limited to, bronchitis, emphysema and asthma. Pre-existing skin diseases such as, but not limited to, rashes and dermatitis. Some individuals with unusual hypersensitivity to hexavalent chromium (chromium+6) salts may exhibit an allergic response to portland cement, due to trace amounts of chromium in the portland cement. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers. Sensitized individuals may react immediately upon contact and others may first experience this effect after years of contact with portland cement products.

NOTES TO PHYSICIAN: Skin irritation may occur hours or days after the time of portland cement exposure. The main types of skin reactions seen are dermatitis of the hands, forearms, and feet seborrheic eczema, stasis dermatitis, and, occasionally exfoliative dermatitis.

SECTION 5 FIRE FIGHTING MEASURES

General Fire Hazards	Not expected to burn.		
Extinguishing Media	Water or use extinguishing media appropriate for surrounding fire.		
Special Fire Fighting Procedures	Wear appropriate personal protective equipment. See section 8.		
Unusual Fire/ Explosion Hazards	None known		
Hazardous Combustion Products	Above 1450° C - decomposes to calcium oxide (CaO) and sulfur dioxide (SO ₂).		
Flash Point	Not Determined	Auto Ignition	Not Applicable
Method Used	Not Applicable	Flammability Classification	Not Applicable
Upper Flammable Limit (UFL)	Not Determined	Rate of Burning	Not Applicable
Lower Flammable Limit (LFL)	Not Determined		



MATERIAL SAFETY DATA SHEET

HYDRO-STONE® Gypsum Cement

MSDS #52-140-052

Page 4 of 9

SECTION 6 ACCIDENTAL RELEASE MEASURES

CONTAINMENT: No special precautions. Wear appropriate personal protective equipment. See section 8.

CLEAN-UP: Use normal clean up procedures. No special precautions.

DISPOSAL: Follow all local, state, provincial and federal regulations. Never discharge large releases directly into sewers or surface waters.

SECTION 7 HANDLING AND STORAGE

HANDLING: Avoid dust contact with eyes and skin. Wear the appropriate eye and skin protection against dust (See Section 8). Minimize dust generation and accumulation. Avoid breathing dust. Wear the appropriate respiratory protection against dust in poorly ventilated areas and if TLV is exceeded (see Sections 2 and 8). Use good safety and industrial hygiene practices.

STORAGE: Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities (see Section 10). As a dry powder, dew point conditions or other conditions causing presence of liquid will harden plaster of paris during storage.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

MATERIAL	WT%	TLV (mg/m ³)	PEL (mg/m ³)
Plaster of Paris (CaSO ₄ •½H ₂ O)	>95	10	15 (T) / 5 (R)
Portland Cement	<5	10	15 (T) / 5 (R)
Crystalline Silica	<5	0.025 (R)	0.1 (R)

(T)–Total; (R)–Respirable; (NE)–Not Established; (C)–Ceiling; (STEL)–Short-term exposure limit

(F)–Fume; (Du)–Dust; (M)–Mist

ppm–part per million; f/cc–fiber per cubic centimeter; mppcf– million particles per cubic foot

ENGINEERING CONTROLS: Provide ventilation sufficient to control airborne dust levels. If user operations generate airborne dust, use ventilation to keep dust concentrations below permissible exposure limits. Where general ventilation is inadequate, use process enclosures, local exhaust ventilation, or other engineering controls to control dust levels below permissible exposure limits.

RESPIRATORY PROTECTION: Wear a NIOSH/MSHA-approved respirator equipped with particulate cartridges when dusty in poorly ventilated areas, and if TLV is exceeded. A respiratory 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. If engineering controls are not possible, wear a properly fitted NIOSH/MSHA-approved particulate respirator.



MATERIAL SAFETY DATA SHEET

HYDRO-STONE® Gypsum Cement

MSDS #52-140-052

Page 5 of 9

OTHER PERSONAL PROTECTIVE EQUIPMENT:

Eye/Face	Due to portland cement content in this product, wear safety glasses with side shields or goggles for eye protection to avoid irritation and severe chemical burns of the eye. Facilities storing or using this material should be equipped with an adequate number of eyewash facilities and safety showers. Contact lenses should not be worn when working with portland cement.
Skin	Wear gloves and protective clothing to prevent repeated or prolonged skin contact.
General	Selection of Personal Protective Equipment will depend on environmental working conditions and operations.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Gray to off white	Vapor Density (Air = 1)	Not Applicable
Odor	Low to no odor	Specific Gravity (H ₂ O = 1)	~2.96 (Plaster of Paris), ~3.15 (Portland Cement)
Odor Threshold	Not Determined	Solubility in water (g/100g)	0.15 - 0.40 (Plaster of Paris); 0.1-1 (Portland Cement)
Physical State	Solid/ Powder	Partition Coefficient	Not Determined
pH @ 25 ° C	~12	Auto-ignition Temp	Not Determined
Melting Point	Not Applicable	Decomposition Temp	Not Determined
Freezing Point	Not Applicable	Viscosity	Not Applicable
Boiling Point	Not Applicable	Particle Size	Varies
Flash Point	Not Determined	Bulk Density	Not Determined
Evaporation Rate (BuAc = 1)	Not Applicable	Molecular Weight	Mixture
Upper Flammable Limit (UFL)	Not Determined	VOC Content	Zero g/L
Lower Flammable Limit (LFL)	Not Determined	Percent Volatile	Zero
Vapor Pressure (mm Hg)	Not Applicable		

SECTION 10 CHEMICAL STABILITY AND REACTIVITY

STABILITY	Stable.
CONDITIONS TO AVOID	Contact with acids, water, high humidity.
INCOMPATIBILITY	Acids. Exposure to water and acids must be supervised because the reactions are vigorous and produce large amounts of heat.
HAZARDOUS POLYMERIZATION	None known.
HAZARDOUS DECOMPOSITION	Above 1450° C - calcium oxide (CaO) and sulfur dioxide (SO ₂).

SECTION 11 TOXICOLOGICAL INFORMATION



MATERIAL SAFETY DATA SHEET

HYDRO-STONE® Gypsum Cement

MSDS #52-140-052

Page 6 of 9

ACUTE EFFECTS: The acute oral toxicity study [OECD TG 420] of calcium sulfate dihydrate showed that this chemical did not cause any changes even at 2,000 mg/kg b.w. Therefore, the oral LD50 value was more than 2,000-mg/kg b.w. for female rats. Gypsum paste applied experimentally to the eyes of rabbits was not an irritant. Gypsum dust particulate has shown an irritant action on mucous membranes of the respiratory tract and eyes. The sulfate ion has caused gastro-intestinal disturbance in humans following large oral doses. Limited studies involving the repeated inhalation of an (unspecified) calcium sulfate failed to identify any particular target organs in monkeys, rats and hamsters. No evidence of mutagenicity was found in Ames bacterial tests.

CHRONIC EFFECTS / CARCINOGENICITY:

Plaster of Paris: Testing of dust from USG plaster of paris has not detected respirable crystalline silica.

Portland Cement: NIOSH conducted a portland cement worker study, "The Mortality of U.S. Portland Cement and Quarry Workers", March 1985, which found "There is no excess mortality from all causes of death, lung cancer, non-malignant respiratory disease, or ischemic heart disease" among the workers studied.

Crystalline Silica: Exposures to respirable crystalline silica are not expected during the normal use of this product; however, actual levels must be determined by workplace hygiene testing. The weight percent of respirable crystalline silica may not have been measured in this product. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease (i.e., silicosis) and/or lung cancer. The development of silicosis may increase the risks of additional health effects. Smoking in combination with silica exposures increases the risk of cancer. The risk of developing silicosis is dependent upon the exposure intensity and duration.

In June, 1997, IARC classified crystalline silica (quartz and cristobalite) as a human carcinogen. In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.

IARC states that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).

SECTION 12 ECOLOGICAL INFORMATION

ENVIRONMENTAL TOXICITY: This product has no known adverse effect on ecology. Toxicity studies performed with fish, aquatic invertebrates and aquatic plants showed no toxic effect. Portland cement is expected to be toxic to fish due to its high alkalinity (pH > 12). Discharge of large quantities directly into waterways would be expected to cause significant fish kills.

Ecotoxicity value	Not determined.
--------------------------	-----------------

SECTION 13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of material in accordance with federal, state, and local regulations. Never discharge directly into sewers or surface waters. Consult with environmental regulatory agencies for guidance on acceptable disposal practices. Slurry may plug drains. Trace amounts of residue can be flushed to a drain, using plenty of water.



MATERIAL SAFETY DATA SHEET

HYDRO-STONE® Gypsum Cement

MSDS #52-140-052

Page 7 of 9

SECTION 14 TRANSPORT INFORMATION

U.S. DOT INFORMATION: Not a hazardous material per DOT shipping requirements. Not classified or regulated.

Shipping Name Same as product name.

Hazard Class Not classified.

UN/NA # None. Not classified.

Packing Group None.

Label (s) Required Not applicable.

GGVSec/MDG-Code Not classified.

ICAO/IATA-DGR Not applicable.

RID/ADR None.

ADNR None.

SECTION 15 REGULATORY INFORMATION

UNITED STATES REGULATIONS

All ingredients of this product are included in the U.S. Environmental Protection Agency's Toxic Substances Control Act Chemical Substance Inventory.

MATERIAL	WT%	3 0 2	3 0 4	3 1 3	CERCLA	CAA Sec. 112	RCRA Code
Plaster of Paris ($\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$)	>95	NL	NL	NL	NL	NL	NL
Portland Cement	<5	NL	NL	NL	NL	NL	NL
Crystalline Silica	<5	NL	NL	NL	NL	NL	NL

Key : NL = Not Listed

SARA Title III Section 302 (EPCRA) Extremely Hazardous Substances: Threshold Planning Quantity (TPQ)

SARA Title III Section 304 (EPCRA) Extremely Hazardous Substances: Reportable Quantity (RQ)

SARA Title III Section 313 (EPCRA) Toxic Chemicals: X= Subject to reporting under section 313

CERCLA Hazardous Substances: Reportable Quantity (RQ)

CAA Section 112 (r) Regulated Chemicals for Accidental Release Prevention: Threshold Quantities(TQ)

RCRA Hazardous Waste: RCRA hazardous waste code

CANADIAN REGULATIONS

This product has been classified in accordance with the hazard criteria of Controlled Product regulations and the MSDS contains all the information required by the Controlled Products Regulations. All ingredients of this product are included in the Canadian Domestic Substances List (DSL).

MATERIAL	WT%	IDL Item #	WHMIS Classification
----------	-----	------------	-------------------------



MATERIAL SAFETY DATA SHEET

HYDRO-STONE® Gypsum Cement

MSDS #52-140-052

Page 8 of 9

Plaster of Paris ($\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$)	>95	Not Listed	Not Listed
Portland Cement	<5	Not Listed	E
Crystalline Silica	<5	1406	D2A

IDL Item#: Canadian Hazardous Products Act – Ingredient Disclosure List Item #

WHMIS Classification: Workplace Hazardous Material Information System

Risk and Safety Phrases defined by European Union Directive 67/548/EEC (Annex III and IV)

R-Phrase(s): None known.

S-Phrase(s): S22


SECTION 16

OTHER INFORMATION

Label Information**Δ WARNING!**

When mixed with water, this material hardens and becomes very hot sometimes quickly. DO NOT attempt to make a cast enclosing any part of the body using this material. Failure to follow these instructions can cause severe burns that may require surgical removal of affected tissue or amputation of limb. Dust can be corrosive to eyes, skin, and respiratory tract. Contact can cause severe chemical burns. Avoid breathing dust. Dust can contain silica. Prolonged and repeated breathing of silica dust can cause lung damage and/or cancer. Wear eye, skin and respiratory protection as necessary per working conditions. If eye contact occurs flush immediately with water for 30 minutes. Do not ingest. If ingested, call physician. Product safety information: 800-507-8899 or usg. com. Customer Service: 800 USG-4-YOU (800 874-4968). KEEP OUT OF REACH OF CHILDREN.

INFORMATION FOR HANDLING AND IDENTIFICATION OF CHEMICAL HAZARDS

NFPA Ratings:			HMIS Ratings:		<table><tr><td>HEALTH</td><td>*</td><td>3</td></tr><tr><td>FLAMMABILITY</td><td></td><td>0</td></tr><tr><td>PHYSICAL HAZARD</td><td></td><td>1</td></tr><tr><td>PERSONAL PROTECTION</td><td></td><td>E</td></tr></table>	HEALTH	*	3	FLAMMABILITY		0	PHYSICAL HAZARD		1	PERSONAL PROTECTION		E	0 = Minimal Hazard
HEALTH	*		3															
FLAMMABILITY			0															
PHYSICAL HAZARD			1															
PERSONAL PROTECTION		E																
Health:	3	Health:	3	1 = Slight Hazard														
Fire:	0	Fire:	0	2 = Moderate Hazard														
Reactivity:	0	Reactivity:	1	3 = Serious Hazard														
					4 = Severe Hazard													

E – Safety glasses, gloves and dust respirator; * - Contains silica

Key/Legend

ANSI	American National Standards Institute
ACGIH	American Conference of Governmental Industrial Hygienists
CAA	Clean Air Act
CAS	Chemical Abstracts Service (Registry Number)
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CFR	Code of Federal Regulations
DOT	United States Department of Transportation
DSL	Canadian Domestic Substances List
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning & Community Right-to-know Act
HMIS	Hazardous Materials Identification System



MATERIAL SAFETY DATA SHEET

HYDRO-STONE® Gypsum Cement

MSDS #52-140-052

Page 9 of 9

IARC	International Agency for Research on Cancer
MSHA	Mine Safety and Health Administration
NDSL	Canadian Non-Domestic Substances List
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Health and Safety Administration
PEL	Permissible Exposure Limit
PPE	Personal Protection Equipment
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act of 1986
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
UN/NA#	United Nations/North America number
WHMIS	Workplace Hazardous Material Information System

Prepared by:
Product Safety
USG Corporation
550 West Adams Street
Chicago, IL 60661-3637

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. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for his/her own particular use.

END

SAFETY DATA SHEET



JET DRY

Section 1. Chemical product and company identification

Product name : JET DRY
Recommended use and restrictions : Rinse additive

Use only for the purpose on the product label.

Product dilution information : Up to 5.6 oz/100 gal in water

Supplier's information : Ecolab Inc. Institutional Division
370 N. Wabasha Street
St. Paul, MN 55102
1-800-352-5326

Code : 914598-01

Date of issue : 22 Oct 2013

EMERGENCY HEALTH INFORMATION: 1-800-328-0026
Outside United States and Canada CALL 1-651-222-5352 (in USA)

Section 2. Hazards identification

Product AS SOLD
GHS Classification : SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B

GHS label elements

Signal word : Warning

Hazard statements : Causes eye irritation.

Precautionary statements

Prevention : 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 attention.

Storage : No other specific measures identified.

Disposal : See section 13 for waste disposal information.

Other hazards : None known.

Product AT USE DILUTION

Not classified.

No signal word.

No known significant effects or critical hazards.

Wash thoroughly after handling.

Get medical attention if symptoms appear.

No other specific measures identified.

See section 13 for waste disposal information.

None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product AS SOLD

Hazardous ingredients	Concentration Range (%)	CAS number
oxirane, methyl-, polymer with oxirane	1 - 5	9003-11-6
alcohols, c10-16, ethoxylated	1 - 5	68002-97-1

Section 3. Composition/information on ingredients

Product AT USE DILUTION

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting, in accordance with local regulations.

Section 4. First aid measures

	Product AS SOLD	Product AT USE DILUTION
Eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists.	No known effect after eye contact. Rinse with water for a few minutes.
Skin contact	: No known effect after skin contact. Rinse with water for a few minutes.	No known effect after skin contact. Rinse with water for a few minutes.
Inhalation	: No special measures required. Treat symptomatically.	No special measures required. Treat symptomatically.
Ingestion	: Get medical attention if symptoms occur.	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	: In a fire or if heated, a pressure increase will occur and the container may burst.
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.
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	Product AT USE DILUTION
Personal precautions	: Use personal protective equipment as required.	Use personal protective equipment as required.
Environmental precautions	: Avoid contact of large amounts of spilled material and runoff with soil and surface waterways.	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.	Use a water rinse for final clean-up.

Section 7. Handling and storage

	Product AS SOLD
Handling	: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
Storage	: Keep out of reach of children. Keep container tightly closed.
	Store between the following temperatures: 0 and 50°C

Product AT USE DILUTION
Wash thoroughly after handling.
Keep out of reach of children.

Section 8. Exposure controls/personal protection

Control parameters

Ingredient name	Exposure limits
None.	

	Product AS SOLD	Product AT USE DILUTION
Appropriate engineering controls	: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
Personal protection		
Eye protection	: No protective equipment is needed under normal use conditions.	No protective equipment is needed under normal use conditions.
Hand protection	: No protective equipment is needed under normal use conditions.	No protective equipment is needed under normal use conditions.
Skin protection	: No protective equipment is needed under normal use conditions.	No protective equipment is needed under normal use conditions.
Respiratory protection	: A respirator is not needed under normal and intended conditions of product use.	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	: Liquid.	Liquid.
Color	: Green [Dark]	Clear
Odor	: Odorless	Odorless
pH	: 2.61 (100%)	7 to 8
Flash point	: > 100°C Product does not support combustion.	> 100°C
Explosion limits	: Not available.	
Flammability (solid, gas)	: Not available.	
Melting point	: Not available.	
Boiling point	: Not available.	
Evaporation rate (butyl acetate = 1)	: Not available.	
Vapor pressure	: Not available.	
Vapor density	: Not available.	
Relative density	: 1.01 (Water = 1)	

Section 9. Physical and chemical properties

Solubility	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Odor threshold	: Not available.
Viscosity	: Kinematic (room temperature): 0 cm ² /s (0 cSt)

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	: No specific data.
Materials to avoid	: Not available.
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:
irritation
watering
redness

Skin contact : No specific data.

Inhalation : No specific data.

Ingestion : No specific data.

Acute toxicity

Eye contact : Causes eye irritation.

Skin contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Product AT USE DILUTION

No specific data.

No specific data.

No specific data.

No specific data.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

Toxicity data

Product/ingredient name

oxirane, methyl-, polymer with oxirane	LC50 Inhalation	Rat	0.147 mg/l
	Dusts and mists		
	LD50 Dermal	Rabbit	>2000 mg/kg
	LD50 Oral	Rat	>2000 mg/kg
alcohols, c10-16, ethoxylated	LC50 Inhalation	Rat	>50 mg/l
	Dusts and mists		
	LD50 Dermal	Rat	>2000 mg/kg
	LD50 Oral	Rat	>1000 mg/kg

Chronic toxicity

Section 11. Toxicological information

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 : This material is toxic to aquatic life.

Aquatic and terrestrial toxicity

Product/ingredient name	Result	Species	Exposure
oxirane, methyl-, polymer with oxirane	Acute LC50 >100 mg/l	Fish	96 hours
alcohols, c10-16, ethoxylated	Acute EC50 >0.1 mg/l	Daphnia	48 hours

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Product AS SOLD
Disposal methods : Diluted product can be flushed to sanitary sewer.
 Discard empty container in trash.

Product AT USE DILUTION
 Diluted product can be flushed to sanitary sewer. Discard empty container in trash.

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 : Not regulated.

IMO/IMDG

IMO/IMDG Classification : Not regulated.

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 : No listed substance

California Prop. 65 : No listed substance

Section 16. Other information

Product AS SOLD

Hazardous Material :
Information System (U.S.A.)

Health	1
Flammability	0
Physical hazards	0

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



Product AT USE DILUTION

Health	0
Flammability	0
Physical hazards	0



Date of issue : 22 Oct 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.



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product number 0766_005
Material name Jet Force Wasp & Hornet Killer
Revision date 07-29-2013
Company information Claire Manufacturing Co.
1005 S. Westgate Drive
Addison, IL 60101 United States
Company phone General Assistance 1-630-543-7600
Emergency telephone US 1-866-836-8855
Emergency telephone outside US 1-952-852-4646
Version # 02
Supersedes date 07-29-2013

2. Hazards Identification

Emergency overview DANGER

CONTENTS UNDER PRESSURE.
Aerosol. Pressurized container may explode when exposed to heat or flame. May cause flash fire or explosion.

Will be easily ignited by heat, spark or flames. Harmful in contact with eyes. Irritating to skin. Irritating to respiratory system. Prolonged exposure may cause chronic effects.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.

Eyes Eye contact may result in corneal injury. Contact with eyes may cause irritation. Moderately irritating to the eyes.

Skin Irritating to skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Harmful if absorbed through the skin.

Inhalation Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Irritating to respiratory system. Prolonged inhalation may be harmful.

Ingestion Exposure by ingestion of an aerosol is unlikely. Components of the product may be absorbed into the body by ingestion. May cause delayed lung damage.

Target organs Blood. Cardiac. Central nervous system. Lungs. Respiratory system.

Chronic effects Unconsciousness. Shortness of breath. Conjunctiva. Cyanosis (blue tissue condition, nails, lips, and/or skin). May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May cause delayed lung injury.

Signs and symptoms Unconsciousness. Discomfort in the chest. Shortness of breath. Corneal damage. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Coughing. Conjunctivitis. Irritating to mouth, throat, and stomach. Skin irritation. Defatting of the skin. Rash.

3. Composition / Information on Ingredients

Hazardous components	CAS #	Percent
Synthetic Isoparaffinic Hydrocarbon	64742-47-8	80 - 90
Carbon Dioxide	124-38-9	2.5 - 10
Isopropyl Alcohol	67-63-0	2.5 - 10

Non-hazardous components	CAS #	Percent
d-Phenothrin	26002-80-2	0.1 - 1
Tetramethrin	7696-12-0	0.1 - 1
Other components below reportable levels		1 - 2.5

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. Continue rinsing. Get medical attention immediately.
Skin contact	Get medical attention if irritation develops and persists. Remove and isolate contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes.
Inhalation	If inhalation of gas/fume/vapor/dust/mist from the material is excessive (air concentration is greater than the TLV or health effects are noticed), immediately remove the affected person(s) 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. Get medical attention immediately.
Ingestion	In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. If material is ingested, immediately contact a poison control center. 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.

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. If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties

Flammable by OSHA criteria. Heat may cause the containers to explode. Vapors may travel considerable distance to a source of ignition and flash back. Runoff to sewer may cause fire or explosion hazard.

Extinguishing media

Suitable extinguishing media	Powder. Alcohol resistant foam. Dry chemicals. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Protection of firefighters

Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases.
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. Structural firefighters protective clothing will only provide limited protection.

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. Cool containers exposed to heat with water spray and remove container, if no risk is involved. 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

Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the MSDS.

Environmental precautions

Do not contaminate water.

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. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up

Should not be released into the environment. Stop the flow of material, if this is without risk. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Isolate area until gas has dispersed. Following product recovery, flush area with water. Scrub the area with detergent and water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the MSDS. After removal flush contaminated area thoroughly with water.

7. Handling and Storage

Handling

Will ignite if exposed to intensive heat or open air. Vapors may form explosive mixtures with air. 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. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get this material in contact with eyes. Avoid contact with skin. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in area provided with appropriate exhaust ventilation.

Storage

Contents under pressure. The pressure in sealed containers can increase under the influence of heat. 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. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep in an area equipped with sprinklers. Use care in handling/storage. Store away from incompatible materials (see Section 10 of the MSDS). Level 3 Aerosol.

8. Exposure Controls / Personal Protection

Occupational exposure limits**ACGIH Biological Exposure Indices
Components**

Isopropyl Alcohol (CAS
67-63-0)

Type

BEI

Value

40 mg/l

**US. ACGIH Threshold Limit Values
Components**

Carbon Dioxide (CAS
124-38-9)

Type

STEL

Value

30000 ppm

Isopropyl Alcohol (CAS
67-63-0)

TWA

5000 ppm

STEL

400 ppm

TWA

200 ppm

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Components**

Carbon Dioxide (CAS
124-38-9)

Type

PEL

Value

9000 mg/m3

Isopropyl Alcohol (CAS
67-63-0)

PEL

5000 ppm

980 mg/m3

400 ppm

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.

Personal protective equipment**Eye / face protection**

Do not get in eyes. Face-shield. Wear safety glasses; chemical goggles (if splashing is possible).

Skin protection

Avoid contact with the skin. Wear appropriate chemical resistant clothing. Chemical resistant gloves. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

General hygiene considerations

When using do not smoke. Do not get in eyes. 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 & Chemical Properties

Appearance	Compressed liquefied gas.
Auto-ignition temperature	450.44 °F (232.47 °C) estimated
Boiling point	438.64 °F (225.91 °C) estimated
Color	Colorless.
Flammability limits in air, upper, % by volume	12 % estimated
Flammability limits in air, lower, % by volume	0.7 % estimated
Flash point	212.16 °F (100.09 °C) estimated
Form	Aerosol.
Odor	Solvent.
Odor threshold	Not available.
pH	Not applicable estimated
Physical state	Gas.
Solubility (water)	Not available.
Specific gravity	0.829 estimated
Vapor pressure	90 - 110 psig @70F estimated
Other data	
Heat of combustion	38.77 kJ/g estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of ignition.
Conditions to avoid	Exposure to air. Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Hazardous decomposition products	No hazardous decomposition products are known.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information**Toxicological data**

Product	Species	Test Results
Jet Force Wasp & Hornet Killer (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rat	2237 mg/kg
<i>Inhalation</i>		
LC50	Rat	1371.2346 mg/l, 3 Hours, estimated 6 mg/l/4h
<i>Oral</i>		
LD50	Dog	56453.8906 mg/kg, estimated
	Mouse	35447.2422 mg/kg, estimated
	Rabbit	59.196 g/kg, estimated
	Rat	53.8251 g/kg, estimated

Product	Species	Test Results
<i>Other</i>		
LD50	Mouse	15428.6396 mg/kg, estimated
	Rat	12351.1816 mg/kg, estimated
Components	Species	Test Results
Isopropyl Alcohol (CAS 67-63-0)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	12800 mg/kg
<i>Oral</i>		
LD50	Dog	4797 mg/kg
	Mouse	3600 mg/kg
	Rabbit	5.03 g/kg
	Rat	4.7 g/kg
<i>Other</i>		
LD50	Mouse	1509 mg/kg
	Rat	1099 mg/kg

* Estimates for product may be based on additional component data not shown.

Sensitization	Not expected to be hazardous by OSHA criteria.
Acute effects	Acute LD50: 2237 mg/kg, Rat, Dermal
Local effects	Components of the product may be absorbed into the body through the skin. Blood disorder may occur after ingestion. Irritating to respiratory system. Irritating to skin. Contact may irritate or burn eyes.
Chronic effects	Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Prolonged or repeated exposure may cause lung injury. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects.
Subchronic effects	Blood disorder may occur after prolonged inhalation. Blood disorder may occur after ingestion. Blood disorder may occur after prolonged skin contact.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
ACGIH Carcinogens	
Isopropyl Alcohol (CAS 67-63-0)	A4 Not classifiable as a human carcinogen.
Skin corrosion/irritation	Not expected to be hazardous by OSHA criteria. Irritating to skin.
Epidemiology	Hazardous by OSHA criteria.
Mutagenicity	Not expected to be hazardous by OSHA criteria.
Neurological effects	Hazardous by OSHA criteria. Not expected to be hazardous by OSHA criteria.
Reproductive effects	Not expected to be hazardous by OSHA criteria.
Teratogenicity	Not expected to be hazardous by OSHA criteria.
Further information	Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Product	Species	Test Results
Jet Force Wasp & Hornet Killer (CAS Mixture)		
Algae	IC50	11769 mg/L, 72 Hours
Crustacea	EC50	629 mg/L, 48 Hours
Fish	LC50	48.7193 mg/L, 96 Hours
Components	Species	Test Results
Isopropyl Alcohol (CAS 67-63-0)		
Algae	IC50	1000.0001 mg/L, 72 Hours

Components		Species	Test Results
Crustacea	EC50	Daphnia	13299 mg/L, 48 Hours
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours
Synthetic Isoparaffinic Hydrocarbon (CAS 64742-47-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Ecotoxicity	LC50: 48.72 mg/L, Fish, 96.00 Hours IC50: 11769 mg/L, Algae, 72.00 Hours EC50: 629 mg/L, Daphnia, 48.00 Hours Components of this product have been identified as having potential environmental concerns.		
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.		
Persistence and degradability	Not available.		
Bioaccumulation / Accumulation			
Bioaccumulative potential			
Octanol/water partition coefficient log Kow			
Isopropyl Alcohol		0.05	
Partition coefficient			
Isopropyl Alcohol		0.05	

13. Disposal Considerations

Waste codes	D001: Waste Flammable material with a flash point <140 F The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal instructions	Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Incinerate the material under controlled conditions in an approved incinerator. 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.
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

DOT

Basic shipping requirements:

UN number	UN1950
Proper shipping name	Aerosols, flammable
Hazard class	2.1
Subsidiary hazard class	None
Special precautions	Read safety instructions, MSDS and emergency procedures before handling.

Additional information:

Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2013, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/13 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

UN number	UN1950
------------------	--------

UN proper shipping name Aerosols, flammable
Transport hazard class(es) 2.1
Labels required 2.1
Special precautions for user Read safety instructions, MSDS and emergency procedures before handling.
Packaging Exceptions LTD QTY

IMDG

UN number UN1950
UN proper shipping name AEROSOLS
Transport hazard class(es) 2.1
Labels required None
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.
Packaging Exceptions LTD QTY

IATA; IMDG



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.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance No

SARA 311/312 Hazardous chemical No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

Country(s) or region	Inventory name	On inventory (yes/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)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	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)

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).

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 - New Jersey RTK - Substances: Listed substance

Carbon Dioxide (CAS 124-38-9)	Listed.
Isopropyl Alcohol (CAS 67-63-0)	Listed.

US. Pennsylvania RTK - Hazardous Substances

Carbon Dioxide (CAS 124-38-9)	Listed.
Isopropyl Alcohol (CAS 67-63-0)	Listed.

16. Other Information

Disclaimer

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 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.

This data sheet contains changes from the previous version in section(s):

Product and Company Identification: Product and Company Identification

CAMDEN BAG AND PAPER COMPANY, LLC
114 GAITHER DRIVE
MT. LAUREL, NJ 08054

MULLICA TWP BD OF ED

P.O. BOX 318
ELWOOD, NJ 08217

Attached please find the most recent Material Safety Data Sheet ("MSDS") for products supplied to your facility by CAMDEN BAG AND PAPER COMPANY, LLC. This MSDS provides information for the safe handling and use of the products distributed by CAMDEN BAG AND PAPER COMPANY, LLC and is required by the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

Please provide the attached MSDS to the appropriate safety personnel and to all persons handling or using these products. Should this information need to be addressed to another person or department, please provide us with the proper contact person and address so we may update our records. If there are any revisions to the MSDS for these products, a new MSDS will be forwarded promptly.

Should you require additional MSDS copies or have questions regarding this information on these products, please contact us at (856-727-3313).

Customer #: 124992

Item Number: JWEL-SEAL5 / JEWEL ACRYLIC SEALER 5 GL PAIL

JWL-FINISH1 / JEWEL SCRUB FINISH 4 1/15 GAL.
JWL-FASTPLUS / FASTMATIC PLUS DEGREASER 4 1/15 GAL
JWL-DUSTS / JEWEL DUSTMOP TREATMENT 5 GL PAIL

Product # -

MATERIAL SAFETY DATA SHEET
SIMILAR TO OSHA FORM 174SECTION I
MANUFACTURER/DISTRIBUTOR INFORMATION

DISTRIBUTOR: Camden Bag
ADDRESS: 114 Gaither Drive East Gate Industrial Park Mt. Laurel, NJ 1054
EMERGENCY TELEPHONE NUMBER: (800) 426-1127
CHEMICAL NAME AND SYNONYMS: N/A Proprietary Blend
TRADE NAME: Jewel Acrylic Floor Seal
CHEMICAL FAMILY: Blended Acrylic Latex
FORMULA: N/A Blended Product
HMIS HAZARD CODE: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0 OTHER: None

SECTION II
HAZARDOUS INGREDIENTS AND FIVE MAJOR COMPONENTS

% CONCENTRATION (RANGE)	HAZARD RATINGS (TLV/PEL)
Water (CAS# 7732-18-5)	75.0-85.0 N/A
Blended Acrylic Polymer Latex (CAS# 62180-77-2)	10.0-15.0 Not Est.
Diethylene Glycol Methyl Ether (CAS# 111-77-3)	1.0-5.0 Not Est.
Tributoxy Ethyl Phosphate (CAS# 78-51-3)	1.0-5.0 Not Est.
Dibutyl Phthalate (CAS# 84-74-2)	1.0-5.0 Not Est.

SECTION III
PHYSICAL DATA

BOILING POINT (OF): 212
VAPOR PRESSURE: = To Water
VAPOR DENSITY: = To Water
SOLUBILITY IN WATER: Disperses
APPEARANCE: Opaque, Thin White Liquid
ODOR: Characteristic Latex Odor

DATE PREPARED: 02-02-1996

BY: TGC

NOTE: Not Est. = Not Established
Prop. = Proprietary

SECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT (OF): None to boiling. FLAMMABLE LIMITS: N/A
EXTINGUISHING MEDIA: Water, CO₂, Dry Chemical, Foam.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Dried film may ignite in fire and liberate irritating fumes.

SECTION V
HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Not Est.

EFFECTS OF OVER EXPOSURE: May cause skin and eye irritation. If ingested may cause severe gastric blockage with associated distress.

EMERGENCY AND FIRST AID PROCEDURES:

FOR SKIN: Wash thoroughly with soap and water. If irritation develops, get medical advice.

FOR EYES: Immediately flush with water for at least 15 minutes. If irritation persists, get medical advice.

IF INGESTED: May coagulate on contact with stomach acids, thus causing severe blockage. DO NOT INDUCE VOMITING. Give nothing by mouth. Get medical aid.

INHALATION: Not considered a hazardous route of exposure.

CONDITIONS AGGRAVATED BY EXPOSURE: None known.

LISTED CARCINOGEN, MUTAGEN, TERATOGEN (INGREDIENT, SOURCE, AMOUNT): None.

SECTION VI
REACTIVITY DATA

STABILITY: Stable.
CONDITIONS TO AVOID: None.
INCOMPATIBILITY: Any acid and strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides and unknown hydrocarbons.
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: None.

SECTION VII
SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: For small spills, rinse to local drains. For larger spills, recontainize by mopping, wet vacuum or by using a suitable absorbent. Rinse remaining material to drains.

WASTE DISPOSAL METHOD: Follow local, state and federal guidelines.

SECTION VIII
SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Not Required.
VENTILATION: Local.
PROTECTIVE GLOVES: Rubber or Latex Gloves Recommended.
EYE PROTECTION: Safety Glasses Recommended.
OTHER PROTECTIVE EQUIPMENT: None Required.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store between 34° and 120° F.

OTHER PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. FOR SALE TO. USE AND STORAGE BY SERVICE PERSONNEL ONLY.

Camden Bag
Order # - 4413 156MATERIAL SAFETY DATA SHEET
SIMILAR TO OSHA FORM 174SECTION I
MANUFACTURER/DISTRIBUTOR INFORMATION

MANUFACTURER/DISTRIBUTOR: DICKLER CHEMICAL LABORATORIES, INC.

ADDRESS: 4201 TORRESDALE AVENUE PHILADELPHIA, PA. 19124

EMERGENCY TELEPHONE NUMBER: (800) 426-1127

CHEMICAL NAME AND SYNONYMS: N/A Proprietary Blend

TRADE NAME: JEWEL SCRUBBABLE FLOOR FINISH

CHEMICAL FAMILY: Blended Acrylic Latex

FORMULA: N/A Blended Product

HMIS HAZARD CODE: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0 OTHER: None

SECTION II
HAZARDOUS INGREDIENTS AND FIVE MAJOR COMPONENTS

	% CONCENTRATION (RANGE)	HAZARD RATINGS (TLV/PEL)
Water (CAS# 7732-18-5)	75.0-85.0	N/A
Blended Acrylic Polymer Latex (CAS# 62180-77-2)	10.0-15.0	Not Est.
Diethylene Glycol Methyl Ether (CAS# 111-77-3)	1.0-5.0	Not Est.
Tributoxy Ethyl Phosphate (CAS# 78-51-3)	1.0-5.0	Not Est.
Dibutyl Phthalate (CAS# 84-74-2)	1.0-5.0	Not Est.

SECTION III
PHYSICAL DATA

BOILING POINT (°F): 212
 VAPOR PRESSURE: = To Water
 VAPOR DENSITY: = To Water
 EVAPORATION RATE: = To Water
 SOLUBILITY IN WATER: Disperses
 APPEARANCE: Opaque, Thin White Liquid
 ODOR: Characteristic Latex Odor

DATE PREPARED: 07-22-1997

BY: TGC

NOTE: Not Est. = Not Established
Prop. = ProprietarySECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT (°F): None to boiling.
 EXTINGUISHING MEDIA: Water, CO₂, Dry Chemical, Foam.
 UNUSUAL FIRE AND EXPLOSION HAZARDS: dried film may ignite in fire and liberate irritating fumes.

SECTION V
HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Not Est.

EFFECTS OF OVER EXPOSURE: May cause skin and eye irritation. If ingested may cause severe gastric blockage with associated distress.

EMERGENCY AND FIRST AID PROCEDURES:

FOR SKIN: Wash thoroughly with soap and water. If irritation develops, get medical advice.

FOR EYES: Immediately flush with water for at least 15 minutes. If irritation persists, get medical advice.

IF INGESTED: May coagulate on contact with stomach acids, thus causing severe blockage. DO NOT INDUCE VOMITING. Give nothing by mouth. Get medical aid.

INHALATION: Not considered a hazardous route of exposure.

CONDITIONS AGGRAVATED BY EXPOSURE: None known.

LISTED CARCINOGEN, MUTAGEN, TERATOGEN (INGREDIENT, SOURCE, AMOUNT): None.

SECTION VI
REACTIVITY DATA

STABILITY: Stable.
 CONDITIONS TO AVOID: None.
 INCOMPATIBILITY: Any acid and strong oxidizers.
 HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides and unknown hydrocarbons.
 HAZARDOUS POLYMERIZATION: Will not occur.
 CONDITIONS TO AVOID: None.

SECTION VII
SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: For small spills, rinse to local drains. For larger spills, recontainize by mopping, wet vacuum or by using a suitable absorbent. Rinse remaining material to drains.

WASTE DISPOSAL METHOD: Follow local, state and federal guidelines.

SECTION VIII
SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Not Required.
 VENTILATION: Local
 PROTECTIVE GLOVES: Rubber or Latex Gloves Recommended.
 EYE PROTECTION: Safety Glasses Recommended.
 OTHER PROTECTIVE EQUIPMENT: None Required.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store between 34° and 120° F.

OTHER PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. FOR SALE TO, USE AND STORAGE BY SERVICE PERSONNEL ONLY.

MATERIAL SAFETY DATA SHEET
SIMILAR TO OSHA FORM 174Camden Bag
Order # 2775 254SECTION I
MANUFACTURER/DISTRIBUTOR INFORMATION

MANUFACTURER/DISTRIBUTOR: DICKLER CHEMICAL LABORATORIES, INC.

ADDRESS: 4201 TORRESDALE AVENUE PHILADELPHIA, PA. 19124

EMERGENCY TELEPHONE NUMBER: (800) 426-1127

CHEMICAL NAME AND SYNONYMS: N/A Blended Alkaline Cleaner

TRADE NAME: FAST MATIC PLUS

CHEMICAL FAMILY: Blended Alkaline, Synthetic and Natural Cleaner

FORMULA: N/A Blended Product

HMIS HAZARD CODE: HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 0 OTHER: None

SECTION II
HAZARDOUS INGREDIENTS AND FIVE MAJOR COMPONENTS

	% CONCENTRATION (RANGE)	HAZARD RATINGS (TLV/PEL)
Water (CAS# 7732-18-5)	70.0-80.0	N/A
2-Butoxy Ethanol (CAS# 111-76-2)	5.0-10.0	50 ppm
Sodium Hydroxide (CAS# 1310-73-2)	1.0-5.0	2 mg/m3
Sodium Tallate (CAS# Not Est.)	1.0-5.0	Not Est.
Nonylphenoxypolyethyleneoxy Ethanol (CAS# 9016-45-9)	1.0-5.0	Not Est.

SECTION III
PHYSICAL DATA

BOILING POINT (oF): 212
 VAPOR PRESSURE: = To Water
 VAPOR DENSITY: = To Water
 SOLUBILITY IN WATER: Complete
 APPEARANCE: Thin, Clear Green Liquid
 ODOR: Sassafras Scented

DATE PREPARED: 01-28-1997

BY: TGC

NOTE: Not Est. = Not Established
 Prop. = Proprietary

SECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT (oF): None to boiling. FLAMMABLE LIMITS: N/A

EXTINGUISHING MEDIA: Water, CO2, Dry Chemical, Foam.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Heated material may liberate irritating fumes.

SECTION V
HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Not Est.

EFFECTS OF OVER EXPOSURE: May cause irritation and chemical burns to skin and eyes. If ingested may cause burns to mouth, throat and gastrointestinal system.

EMERGENCY AND FIRST AID PROCEDURES:

FOR SKIN: Wash affected area thoroughly with water. If blistering is apparent or irritation persists, get medical advice.
 FOR EYES: Flush with water for at least 15 minutes. Get immediate medical aid.

IF INGESTED: DO NOT INDUCE VOMITING. Give milk, egg white, gelatin, or if none of these is available, give water. Get immediate medical aid.

INHALATION: Not known to cause inhalation problems.

CONDITIONS AGGRAVATED BY EXPOSURE: None known.

LISTED CARCINOGEN, MUTAGEN, TERATOGEN (INGREDIENT, SOURCE, AMOUNT): None.

SECTION VI
REACTIVITY DATA

STABILITY: Stable.
 CONDITIONS TO AVOID: None.
 INCOMPATIBILITY: Strong acids and oxidizers.
 HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides.
 HAZARDOUS POLYMERIZATION: Will not occur.
 CONDITIONS TO AVOID: None.

SECTION VII
SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: For small spills, rinse to local drains. For larger spills, recontainize by mopping, wet vacuum or by using a suitable absorbent. Rinse remaining material to drains.

WASTE DISPOSAL METHOD: Follow local, state and federal guidelines.

SECTION VIII
SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Not Required.
 VENTILATION: Local.
 PROTECTIVE GLOVES: Rubber or Latex Gloves Required.
 EYE PROTECTION: Safety Glasses or Goggles Required.
 OTHER PROTECTIVE EQUIPMENT: None Required.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store between 34o and 120o F.

OTHER PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. FOR SALE TO, USE AND STORAGE BY SERVICE PERSONNEL ONLY.

Product # -

MATERIAL SAFETY DATA SHEET
SIMILAR TO OSHA FORM 174SECTION I
MANUFACTURER/DISTRIBUTOR INFORMATION

DISTRIBUTOR: Camden Bag
 ADDRESS: 114 Gaither Drive East Gate Industrial Park Mt. Laurel, NJ 054
 EMERGENCY TELEPHONE NUMBER: (800) 426-1127
 CHEMICAL NAME AND SYNONYMS: N/A Proprietary Blend
 TRADE NAME: Jewel Dust Mop Treatment
 CHEMICAL FAMILY: Blended Glycols and Surfactants
 FORMULA: N/A Blended Product
 HMIS HAZARD CODE: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0 OTHER: None

SECTION II
HAZARDOUS INGREDIENTS AND FIVE MAJOR COMPONENTS

	% CONCENTRATION (RANGE)	HAZARD RATINGS (TLV/PEL)
Water (CAS# 7732-18-5)	80.0-90.0	N/A
Ethylene glycol (CAS# 111-60-4)	10.0-15.0	50 ppm
Nonylphenoxypolyethyleneoxy Ethanols (CAS# 9016-45-9)	1.0-5.0	Not Est.
Colorant & Odorant (CAS# Not Est.)	0.0-1.0	Not Est.

SECTION III
PHYSICAL DATA

BOILING POINT (°F): Not Est.
 VAPOR PRESSURE: Not Est.
 VAPOR DENSITY: Not Est.
 SOLUBILITY IN WATER: Complete
 APPEARANCE: Thin Blue Liquid
 ODOR: Banana Scented

DATE PREPARED: 02-02-1996

BY: TGC

NOTE: Not Est. = Not Established
Prop. = ProprietarySECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT (°F): None to boiling.
 EXTINGUISHING MEDIA: N/A
 FLAMMABLE LIMITS: N/A
 UNUSUAL FIRE AND EXPLOSION HAZARDS: Heated material may liberate irritating fumes.

SECTION V
HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Not Est.

EFFECTS OF OVER EXPOSURE: May cause skin and eye irritation. May be harmful or fatal if swallowed.

EMERGENCY AND FIRST AID PROCEDURES:

FOR SKIN: Thoroughly wash affected area with water. If irritation or burns are apparent, get medical aid.
 FOR EYES: Immediately wash with water for at least 15 minutes. Get medical aid.
 IF INGESTED: INDUCE VOMITING by administering Syrup of Ipecac, salt water, or if these are not available, use finger in throat method. Give two glasses of water and repeat vomiting until vomitus is clear. Get immediate medical aid.
 INHALATION: Not a hazardous route of exposure.

CONDITIONS AGGRAVATED BY EXPOSURE: None known.

LISTED CARCINOGEN, MUTAGEN, TERATOGEN (INGREDIENT, SOURCE, AMOUNT): None.

SECTION VI
REACTIVITY DATA

STABILITY: Stable.
 CONDITIONS TO AVOID: None.
 INCOMPATIBILITY: Acids and oxidizers.
 HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides and other hydrocarbons.
 HAZARDOUS POLYMERIZATION: Will not occur.
 CONDITIONS TO AVOID: None.

SECTION VII
SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: For small spills, rinse to local drains. For larger spills, recontainize by mopping, wet vacuum or by using a suitable absorbent. Rinse remaining material to drains.

WASTE DISPOSAL METHOD: Follow local, state and federal guidelines.

SECTION VIII
SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Not Applicable.
 VENTILATION: Local.
 PROTECTIVE CLOTHES: Rubber or Latex Gloves Recommended.
 EYE PROTECTION: Safety Glasses Recommended.
 OTHER PROTECTIVE EQUIPMENT: None Required.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store between 34° and 120° F.

OTHER PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. FOR SALE TO, USE AND STORAGE BY SERVICE PERSONNEL ONLY.

17 MUNDOWI RD

MT KURING-GAI NSW 2080, Australia

DATE of ISSUE: 1 SEPTEMBER 2006

TEL: (02) 9457 9922 FAX: (02) 9457 8082

EMERGENCY TEL: AS ABOVE, or POISONS INFORMATION CENTRE

Material Safety Data Sheet
Not Classified as Hazardous According to the Criteria of Worksafe Australia

IDENTIFICATION

Product name: **JO SONJA TEXTILE MEDIUM**U.N. No: **N/A**

Other names: ----

Hazchem: **N/A**Dangerous Goods Class & Sub Risk: **N/A**Manufacturer's Product Code: **VARIOUS**Poisons Schedule: **N/A**Use: **ADDITIVE FOR TEXTILE PRINTING/PAINTING**

Physical Description/Properties

Appearance: **OFF WHITE TO CREAMY LIQUID**Flash Point (°C): **N/A**Boiling Point/Melting Point (°C) **N/A**Flammability limits (%): **N/A**Vapour Pressure (pascals or mm of Hg at 25°C) **N/A**Solubility in Water (g/L): **soluble**Specific Gravity **APPROX 1g/ml**

Other properties

Ingredients

Chemical entity	CAS No.	Proportion
ACRYLIC EMULSION	NON HAZ	COMMERCIAL IN CONFIDENCE
MONOETHANOLAMINE	141-43-5/111-42-2	< 0.2%
PRESERVATIVES	149-30-4 / 2634-33-5	0.15%

HEALTH HAZARD INFORMATION

HEALTH EFFECTS:

Acute:	Swallowed	NONE ALLOCATED
	Eye	DIRECT CONTACT MAY CAUSE SLIGHT IRRITATION
	Skin	PROLONGED OR REPEATED CONTACT MAY CAUSE SLIGHT SKIN IRRITATION
	Inhaled	INHALATION OF VAPOUR MAY CAUSE IRRITATION
	Chronic	NONE ALLOCATED

FIRST AID:

Swallowed	IF SWALLOWED GIVE TWO GLASSES OF WATER TO DRINK
Eye	FLUSH EYES WITH A LARGE AMOUNT OF WATER
Skin	WASH AFFECTED SKIN AREAS THOROUGHLY
Inhaled	MOVE SUBJECT TO FRESH AIR

ADVICE TO DOCTOR THIS PRODUCE CARRIES THE C.P. NON-TOXIC SEAL AND IS CERTIFIED BY A TOXICOLOGIST IN ASSOCIATION WITH THE ART & CRAFT MATERIALS INSTITUTE, BOSTON Ma 02110 USA.

PRECAUTIONS FOR USE**EXPOSURE STANDARDS**

NONE

ENGINEERING CONTROLS

USE IN WELL VENTILATED AREAS

PERSONAL PROTECTION

NONE REQUIRED IF USED IN A WELL VENTILATED AREA

FLAMMABILITY

N/A

SAFE HANDLING INFORMATION**STORAGE & TRANSPORT**

KEEP FROM FREEZING. RECOMMENDED STORAGE CONDITIONS ARE
BETWEEN 1° C AND 50 °C.

SPILLS & DISPOSAL

FOR LARGER QUANTITIES, CONTAIN ANY SPILLS WITH INERT MATERIALS, (SAND,
SAWDUST ETC) AND TRANSFER TO CONTAINERS FOR DISPOSAL. CONTACT
LOCAL WASTE DISPOSAL AUTHORITY FOR DISPOSAL METHODS. SOAK UP
SMALLER SPILLS WITH A RAG AND DISPOSE OF CAREFULLY.

FIRE/EXPLOSION HAZARD

NONE

OTHER INFORMATION**CONTACT POINT**

MT KURING-GAI AUSTRALIA

DATE OF ISSUE: 1 SEPTEMBER 2006

MATERIAL SAFETY DATA SHEET

Page 1 of 5
Updated 07-27-2011
Supersedes 07-31-08
MSDS# 81Q2

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **John Deere Cool Gard II Premix**
(TY26575, TY26576, TY26577, TY26578)
Product description: Ethylene Glycol based Antifreeze/Coolant
MANUFACTURER: **EMERGENCY TELEPHONE NUMBERS:**
Northland Products Company Chemtrec: 1-800-424-9300
1000 Rainbow Drive
Waterloo, IA 50704
319-234-5585, 1-800-772-1724

2. COMPOSITION/INFORMATION ON INGREDIENTS

	<u>wt. Percent</u>	<u>CAS Registry #</u>
Monoethylene Glycol	> 45	000107-21-1
Diethylene Glycol	3 max	000111-46-6
Proprietary Inhibitors	1-5	Mixture
Water	50 max	007732-18-5

3. HAZARD IDENTIFICATION**Emergency Overview:**

Liquid, dyed golden with a mild odor. Excessive exposure may cause irritation to the upper respiratory tract. Ingestion of very large amounts of Ethylene Glycol may cause birth defects. Exposure through inhalation and skin contact did not cause birth defects in animal reproduction. In-vitro (test tube) and animal mutagenicity tests have been negative. Exposure should be minimized.

POTENTIAL HEALTH EFFECTS:**INHALATION:**

Vapors are minimal under normal conditions but should be avoided, concentrations may reach levels that could cause irritation.

EYE CONTACT:

May cause slight temporary eye irritation. Corneal injury is unlikely. Vapors or mists may irritate eyes.

SKIN CONTACT:

Potentially irritating to the skin (irritant, Sensitizer).

INGESTION:

Toxic by ingestion. **HARMFUL OR FATAL IF SWALLOWED.**
Excessive exposure may cause central nervous system effects, cardiopulmonary effects, and kidney failure. Single dose oral toxicity is moderate. Single dose oral LD50(Rat) Acute=5000 ppm, (Hamster) Acute=9500 ppm. Lethal dose in humans is estimated to be 100mL (3 ounces).

3. HAZARD IDENTIFICATION (Continued)

OTHER:

Excessive exposure may cause irritation to upper respiratory tract. Observations in long term high dose animal studies with ethylene glycol and diethylene glycol include bladder stones, kidney and liver effects and deposition of calcium salts in various tissues. Ethylene glycol did not cause cancer in long term animal studies. Based on animal studies, ingestion of very large amounts of ethylene glycol appears to be the only way to produce birth defects. Birth defects are unlikely from exposure to diethylene glycol. Results of in-vitro mutagenicity tests have been negative. Results of mutagenicity tests in animals have also been negative.

Hazardous Material Identification System (HMIS):

Health-2, Flammability-0, Reactivity-0 (Based on components)

4. FIRST AID MEASURES

INHALATION:

Remove the victim from the area to fresh air. Call a physician. Give oxygen if victim is breathing hard.

EYE CONTACT:

Flush eyes with large amounts of water immediately for 15 minutes or until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:

Wash affected areas thoroughly with soap and water. Remove contaminated clothing and wash them before wearing again. Call a physician if irritation persists.

INGESTION:

If swallowed, IMMEDIATELY contact a poison control center, emergency treatment center or a physician. Never give anything by mouth to an unconscious person.

NOTE TO DOCTOR:

Supportive care. Treatment based on judgment of the physician in response to reactions of the patient. In treatment of intoxication, the use of ethanol, hemodialysis and intravenous fluids to control acidosis should be considered.

5. FIRE FIGHTING MEASURES

Flash point : NA, Aqueous solutions are non-flammable

Flammable limits: NA, Aqueous solutions are non-flammable

Auto-ignition Temperature: NA

Flammability: : May be Combustible if water has evaporated

5. FIRE FIGHTING MEASURES (Continued)

GENERAL HAZARD:

No hazards under normal conditions; however, engine components can be at temperatures above the flash, fire and auto-ignition point. Avoid spills in the engine compartment.

FIRE FIGHTING INSTRUCTIONS:

Either allow fire to burn out under controlled conditions or extinguish with foam, CO₂, or dry chemical. Try to cover liquid spills with foam. Shut off fuel to fire if possible to do so without hazard.

FIRE FIGHTING EQUIPMENT:

NIOSH approved self-contained breathing apparatus and eye protection are required for fire fighting personnel on all indoor fires and any significant outdoor fires.

HAZARDOUS COMBUSTION PRODUCTS:

Smoke, fumes, carbon monoxide, carbon dioxide and water.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

Health-2, Flammability-0, Reactivity-0 (Based on components)

6. ACCIDENTAL RELEASE MEASURES

Notify the appropriate authorities immediately. Take all actions necessary to prevent adverse effects of the spill. Eliminate ignition sources. Shut off leak if safe to do so. Dike spilled liquid with sand/earth and dispose of properly. DO NOT use sawdust or other combustible materials.~ Prevent product from entering sewers or waterways.
National Response Center 1-800-424-8802

7. HANDLING AND STORAGE

STORAGE TEMPERATURE: Ambient STORAGE PRESSURE: Atmospheric
GENERAL:

Keep container closed. Loosen closure cautiously before opening. Store in well ventilated area away from incompatible materials. (See Section 10) Keep away from heat, sparks and flames. Empty container may still retain hazardous properties.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

Use mechanical ventilation to control vapor concentrations in confined spaces. General ventilation should be sufficient for most operations.

8. EXPOSURE CONTROL / PERSONAL PROTECTION (*Continued*)

PERSONAL PROTECTION:

Respirator:

Use an air supplied respirator when concentrations are over the exposure limits.

Protective Clothing:

For brief contact, no precautions are necessary.

Wear nitrile/neoprene gloves, nitrile/neoprene boots, a chemical worker's suit and chemical splash goggles as appropriate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling point	: 264°F approximately
Vapor pressure	: 0.06 mmHg @ 20°C
Vapor density	: 2.1 (Air = 1)
Solubility in water	: Completely miscible
Specific gravity	: 1.07 - 1.08 @ 60°F
pH	: 7.5 to 8.2 (Basic)
Odor	: odorless
Appearance	: Clear, Dyed Golden
Physical state	: Liquid

10. STABILITY AND REACTIVITY

GENERAL:

This product is stable under normal storage conditions.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Oxidizing agents.

HAZARDOUS DECOMPOSITION:

None.

HAZARDOUS POLYMERIZATION:

Will not occur

11. TOXICOLOGICAL INFORMATION

No component of this product present at levels greater than 0.1 is identified as a carcinogen by NTP, IARC or OSHA.

Data on animal testing is provided in section 3 (other).

No data on humans; Exposure can cause Nausea, Headache & Vomiting.

12. ECOLOGICAL INFORMATION

No data is available.

13. DISPOSAL CONSIDERATIONS

Ensure disposal is in compliance with Federal-State-Local laws.
Do not landfill or dispose of in sink drains or sewers.

14. TRANSPORTATION INFORMATION

DOT (Department of Transportation):

Proper shipping name : Environmentally Hazardous Substance,
Liquid, n.o.s., (Contains Ethylene
Glycol), UN 3082, PG III
Hazard class : Class 9 (Misc. hazardous material)
Labeling : Warning! Harmful or fatal if
swallowed. Avoid excessive exposure.
Avoid breathing sprays or mists.

* This product is only regulated in single containers over 5000 pounds

15. REGULATORY INFORMATION

TSCA (Toxic Substance Control Act):

All components of this product are listed on the U.S. TSCA
inventory.

CERCLA (Comprehensive Response Compensation, and Liability Act):

This product is not subject to any special reporting under the
requirements of CERCLA under 5000 pounds. We recommend you
contact local authorities to determine local reporting
requirements.

SARA TITLE III (Superfund Amendments and Reauthorization Act):

311/312 Hazard Categories:

This material is defined as hazardous by OSHA under
29 CFR part 1910.1200(d). Immediate health hazard and
delayed health hazard.

313 Reportable Ingredients:

Contains 45 - 50 weight percent of Ethylene Glycol.

16. OTHER INFORMATION

THE INFORMATION PRESENTED HEREIN HAS BEEN COMPILED FROM SOURCES
CONSIDERED TO BE DEPENDABLE AND IS ACCURATE TO THE BEST OF
NORTHLAND PRODUCTS COMPANY'S KNOWLEDGE; HOWEVER, NORTHLAND
PRODUCTS COMPANY MAKES NO WARRANTY WHATSOEVER, EXPRESSED OR
IMPLIED, OF MERCHANTABILITY OR FITNESS FOR THE PARTICULAR
PURPOSE, REGARDING THE ACCURACY OF SUCH DATA OR THE RESULTS
TO BE OBTAINED FROM THE USE THEREOF. NORTHLAND PRODUCTS COMPANY
ASSUMES NO RESPONSIBILITY FOR THE INJURY TO THE RECIPIENT OR TO
THIRD PARTY PERSONS OR FOR ANY DAMAGE TO ANY PROPERTY AND
RECIPIENT ASSUMES ALL SUCH RISKS.



DEERE & COMPANY

John Deere Road, Moline, IL 61265
1-800-822-8262

Material Data Safety Sheet

JOHN DEERE PRODUCT NAME: Hy-Gard Transmission and Hydraulic Oil - Low Viscosity

DATA SHEET NO: 8503-40,105
LATEST REVISION DATE: 15 Oct. 1999
DEERE CODE: Y4, XN
JDM PART NO: TY6342, TY6344,
TY22000, TY22035

SECTION I - PRODUCT IDENTIFICATION

CHEMICAL NAME AND SYNONYMS: Lubricating Oil; Hydraulic Fluid; J20D
CHEMICAL FAMILY: Hydrocarbon FORMULA: Complex

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV/PEL	V.P.	CAS.#
Solvent refined, hydrotreated, heavy paraffinic distillate	< 85	5 mg/m ³ *	-	64742547
Solvent refined, dewaxed heavy paraffinic distillate	< 40	5 mg/m ³ *	-	64742650
Solvent refined, light naphthenic distillate	< 40	5 mg/m ³ *	-	64741975
Additive package **	< 15	None	-	Mixture

* for oil mists

** The specific chemical identity of this component is considered trade secret information.

SECTION III - PHYSICAL DATA

BOILING POINT: N.A.	SP. GRAVITY (WATER=1): 0.89
% VOLATILE VOLUME: N.A.	EVAPORATION RATE: N.A.
VAPOR DENSITY: N.A.	SOLUBILITY IN WATER: Insoluble
APPEARANCE/ODOR: dark amber/slight odor	N.A. = not available

SECTION IV - FIRE & EXPLOSION HAZARD DATA

FLASH POINT: 390° F C.O.C. FLAMMABLE LIMIT - LEL: N.A.
EXTINGUISHING MEDIA: Water fog, foam, dry chemical, carbon dioxide, or halogenated agents.
SPECIAL FIRE FIGHTING PROCEDURES: Do not use a direct stream of water. Product will float and can be reignited on surface of water. Cool fire exposed containers with water. Use NIOSH approved self-contained breathing apparatus.
UNUSUAL FIRE & EXPLOSION HAZARDS: None



----- SECTION V - HEALTH HAZARD DATA -----

EXPOSURE LIMIT: See Section II - Hazardous Ingredients

EFFECTS OF OVEREXPOSURE: Exposure to vapors or mists may cause mild upper respiratory tract irritation. Prolonged or repeated contact may cause various skin disorders such as dermatitis, oil acne, or folliculitis. Eye contact is minimally irritating. Effects of ingestion are expected to be relatively non-toxic. Exposure to product may aggravate preexisting skin and respiratory conditions.

EMERGENCY & FIRST AID: Eyes - flush with water 15 minutes. Skin - remove contaminated clothing; wash skin with soap and water; if material is injected under the skin, do not wait for symptoms to develop - get medical attention promptly to prevent serious damage. Inhalation - remove victim to fresh air and provide oxygen if breathing is difficult. Ingestion - do NOT induce vomiting. In all cases seek medical attention.

----- SECTION VI - REACTIVITY DATA -----

STABILITY: Stable

INCOMPATIBILITY: Avoid open flame, and oxidizing materials

HAZARDOUS POLYMERIZATION: Will not occur

DECOMPOSITION PRODUCTS: Dependent on combustion conditions. A complex mixture of airborne solid, liquid, and gas will evolve when this material undergoes pyrolysis or combustion. Oxides of carbon, sulfur, phosphorous, and other unidentified organic compounds may be formed.

----- SECTION VII - SPILL OR LEAK PROCEDURE -----

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Dike and contain. Use vacuum or an absorbent such as clay or sand to pick up. Flush area with water to remove trace residue. NOTE: This product is classified as an oil under the Clean Water Act. Spills, entering surface waters or any watercourse or sewer leading to surface waters, must be reported to the National Response Center 800-424-9802.

WASTE DISPOSAL METHOD: In accord with federal, state, and local regulations

----- SECTION VIII - PROTECTIVE EQUIPMENT INFORMATION -----

VENTILATION: Local exhaust to keep TLV/PEL below acceptable levels

RESPIRATOR: NIOSH approved as needed EYE WEAR: Recommended

GLOVES: Recommended to minimize skin contact OTHER:

----- SECTION IX - SPECIAL PRECAUTIONS -----

Minimize skin contact. Wash with soap and water before eating, smoking, or using toilet facilities. Launder contaminated clothing before reuse. Properly dispose of contaminated articles including shoes that cannot be cleaned. Store in a cool, dry place with adequate ventilation. Keep away from open flames. Keep away from children.

----- SECTION X - DATA PREPARATION -----

NAME: T. M. Snyder, CIH

TITLE: Industrial Hygienist

SIGNATURE:

DATE: October 27, 1999

The information contained herein is believed to be accurate. However, no warranty is expressed or implied regarding the accuracy of these 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 material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendee assumes the risk in use of the material.



SAFETY DATA SHEET

1. Identification

Product identifier Hylomar / Hylosil 100 Series: 101 Ivory, 101 Grey, 102 Black, 103 Translucent, 106 Ivory

Other means of identification

SDS number 18

Recommended use Automotive Amine curing RTV silicone sealant.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer: Hylomar Ltd.

Address: Hylo House, Cale Lane, New Springs,
Wigan, Greater Manchester,
UK, WN2 1JT

Telephone number: +44(0)1942 617000

E-mail address: info@hylomar.co.uk

Contact person: Technical Department

Emergency telephone: 1.866.519.4752 (USA, Canada, Mexico)
1-760-476-3962
Access code: 333544

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Causes skin irritation. Causes serious eye damage.

Precautionary statement

Prevention Wash thoroughly after handling. Wear protective gloves/protective clothing/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. Immediately call a poison center/doctor. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it 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) In high concentrations, vapors may irritate throat and respiratory system and cause coughing.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
N,N',N''-Tricyclohexyl-1-methyl silanetriamine	15901-40-3	1 - 5
Carbon black	1333-86-4	1 - 2

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 into fresh air and keep at rest. If not breathing, give artificial respiration or give oxygen by trained personnel. Get medical attention if any discomfort continues.
Skin contact	Take off immediately all contaminated clothing. Wash skin thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush with plenty of water. Remove any contact lenses and open eyelids wide apart. Call an ambulance and continue flushing during transportation to hospital taking along these instructions.
Ingestion	Rinse mouth thoroughly. Drink a few glasses of water or milk. Get medical attention if any discomfort continues.
Most important symptoms/effects, acute and delayed	Skin irritation. May cause redness and pain. Extreme irritation of eyes and mucous membranes, including burning and tearing. In high concentrations, vapors may be irritating to the respiratory system.
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	Water spray, foam, dry powder or carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	By heating and fire, toxic vapors/gases 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. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire-fighting equipment/instructions	Cool containers exposed to heat with water spray and remove container, if no risk is involved. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.
General fire hazards	The product is not flammable.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep upwind. Ventilate closed spaces before entering. Avoid inhalation of vapors/spray and contact with skin and eyes. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unnecessary personnel away. Wear protective clothing as described in Section 8 of this SDS.
Methods and materials for containment and cleaning up	Ventilate the area. In case of spills, beware of slippery floors and surfaces. Wipe up with absorbent material (e.g. cloth, fleece). Transfer to a container for disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Keep away from sources of ignition - No smoking. Wear protective clothing as described in Section 8 of this safety data sheet. Use only outdoors or in a well-ventilated area. Avoid inhalation of vapors/mist and contact with skin and eyes. Avoid prolonged exposure. Wash thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices. Avoid release to the environment.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed in a cool, well-ventilated place. Keep away from heat, spark, open flames and other sources of ignition. Store away from incompatible materials. Store locked up. Protect from moisture.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon black (CAS 1333-86-4)	PEL	3.5 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Carbon black (CAS 1333-86-4)	TWA	3.5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon black (CAS 1333-86-4)	TWA	3.5 mg/m3

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	Follow standard monitoring procedures.
Appropriate engineering controls	Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors. Provide adequate ventilation. The listed ingredients in section 3 and 8 are encapsulated within the silicone matrix, therefore no exposure to these materials is expected during normal use/handling of this product. The exposure limits listed are provided for safety reasons. Under the effect of humidity, water and protoic agents a small quantity of Cyclohexylamine will be released.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
Other	Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	Not normally needed. 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. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.
Thermal hazards	Not applicable.
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	Paste.
Physical state	Liquid.
Form	Paste.
Color	101 Ivory: Ivory. 101 Gray: Gray. 102 Black : Black. 103 Translucent : Colorless. 106 Ivory: Ivory.
Odor	Characteristic. Amine.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	392.0 °F (200.0 °C)
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	1.15 (25 °C) (Water = 1)
Solubility(ies)	
Solubility (water)	Insoluble in water.
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	824 °F (440 °C)
Decomposition temperature	Not available.
Viscosity	Not applicable.
Other information	
Explosive limit	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
VOC (Weight %)	0 % (Hylomar Test Method 1.1A Determination of Volatile Matter)

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	Heat, flames and sparks.
Incompatible materials	None known.
Hazardous decomposition products	Under the effect of humidity, water and protoic agents a small quantity of Cyclohexylamine will be released. At a temperature of approx 150°C a small amount of formaldehyde can be released by oxidative degradation.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Ingestion may cause irritation and malaise.
Inhalation	In high concentrations, vapors may irritate throat and respiratory system and cause coughing.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics	Skin irritation. May cause redness and pain. Extreme irritation of eyes and mucous membranes, including burning and tearing. In high concentrations, vapors may be irritating to the respiratory system.

Information on toxicological effects

Acute toxicity	Ingestion may cause irritation and malaise.
-----------------------	---

Components	Species	Test Results
Siloxanes and silicones, di-Me, hydroxy-terminated (CAS 70131-67-8)		
Acute		
Dermal		
LD50	Rabbit	>= 15200 mg/kg
Oral		
LD50	Rat	>= 60800 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	No data available.	
Skin sensitization	No data available.	
Germ cell mutagenicity	No data available.	

Carcinogenicity Inhalation of carbon black dust may cause cancer, however due to the physical form of the product, inhalation of dust is not likely.

IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon black (CAS 1333-86-4)

2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity No data available.
Specific target organ toxicity - single exposure No data available.
Specific target organ toxicity - repeated exposure No data available.
Aspiration hazard No data available.
Chronic effects None known.
Further information No other specific acute or chronic health impact noted.

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 The product is not readily biodegradable.
Bioaccumulative potential No data available.
Mobility in soil No data available.
Mobility in general The product is insoluble in water.
Other adverse effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. Disposal considerations

Disposal instructions Do not discharge into drains, water courses or onto the ground. 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 of in accordance with local 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 Do not discharge into rivers, lakes, mountains, etc. because the product may affect the environment.
Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

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.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

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 Yes

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 United States and Puerto Rico: The 'No' is due to the product containing a substance considered a mixture under TSCA which is therefore excluded from the TSCA 8(b) listing. All other ingredients are listed on the inventory.

WARNING: This product contains a chemical known to the State of California to cause cancer.

US. Massachusetts RTK - Substance List

Carbon black (CAS 1333-86-4)

US. New Jersey Worker and Community Right-to-Know Act

Carbon black (CAS 1333-86-4)

US. Pennsylvania Worker and Community Right-to-Know Law

Carbon black (CAS 1333-86-4)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Carbon black (CAS 1333-86-4)

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)	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	No

*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 14-July-2014

Revision date	-
Version #	01
Further information	HMIS® is a registered trade and service mark of the NPCA.
HMIS® ratings	Health: 3 Flammability: 1 Physical hazard: 0
NFPA ratings	
References	ACGIH EPA: AQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available.



MATERIAL SAFETY DATA SHEET

Date Prepared: November 08, 2003
Supersedes: October 11, 2003
MSDS Number: 17432

1. PRODUCT INFORMATION

Product Identifier: JOHN DEERE TURF-GARD 4-CYCLE MOTOR OIL 10W-30

Application and Use:
Mineral oil for gas engines

Product Description:

A lubricating oil consisting of a mixture of saturated and unsaturated hydrocarbons derived from paraffinic distillate, and additives.

REGULATORY CLASSIFICATION

WHMIS:
Not a controlled product

CEPA: CANADIAN ENVIRONMENTAL PROTECTION ACT
All components of this product are either on the Domestic Substances List (DSL) or are exempt.

TDG INFORMATION (RAIL/ROAD):
Not Regulated in Canada.

Please be aware that other regulations may apply.

TELEPHONE NUMBERS

Emergency 24 hr. (519) 339-2145
Technical Info. (800) 268-3183

MANUFACTURER/SUPPLIER:

IMPERIAL OIL
Products Division
111 St Clair Avenue West
Toronto, Ontario
M5W 1K3

2. REGULATED COMPONENTS

The following components are defined in accordance with sub-paragraph 13(a) (i) to (iv) or paragraph 14(a) of the Hazardous Products Act:

NAME	%	CAS #
Not applicable		

3. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Physical State: Liquid
Specific gravity: not available
Viscosity: 10.35 cSt at 100 deg C
Vapour Density: not available
Boiling Point: 284 to 615 deg C
Evaporation rate: <0.1 (1= n-butylacetate)
Solubility in water: negligible
Freezing/Pour Point: -27 deg C ASTM D97
Odour Threshold: not available
Vapour Pressure: <1 kPa at 38 deg C
Density: 0.89 g/cc at 15 deg C
Appearance/odour: Clear amber liquid, mild petroleum odour.

4. HEALTH HAZARD INFORMATION

NATURE OF HAZARD

INHALATION:

Negligible hazard at normal temperatures (up to 38 deg C).
Elevated temperatures or mechanical action may form vapours, mists or fumes which may be irritating to the eyes, nose, throat and lungs.
Avoid breathing vapours or mists.

EYE CONTACT:

Slightly irritating, but will not injure eye tissue.

SKIN CONTACT:

Low toxicity.
Frequent or prolonged contact may irritate the skin.

INGESTION:

Low toxicity.

CHRONIC:

Prolonged and/or repeated contact with used gasoline engine oil has caused

skin cancer in experimental animals. The relationship of these results to humans has not been fully established.

ACUTE TOXICITY DATA:

Based on animal testing data from similar materials and products, the acute toxicity of this product is expected to be:

Oral : LD50 > 5000 mg/kg (Rat)
Dermal : LD50 > 3160 mg/kg (Rabbit)
Inhalation : LC50 > 5000 mg/m3 (Rat)

OCCUPATIONAL EXPOSURE LIMIT:

ACGIH recommends:

For oil mists, 5 mg/m3.

Local regulated limits may vary.

5. FIRST AID MEASURES

INHALATION:

Vapour pressure of this material is low and as such inhalation under normal conditions is usually not a problem. If overexposed to oil mist, remove from further exposure. Administer artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.

EYE CONTACT:

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:

Flush with large amounts of water. Use soap if available. Remove severely contaminated clothing (including shoes) and launder before reuse. If irritation persists, seek medical attention.

INGESTION:

If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

6. PREVENTIVE AND CORRECTIVE MEASURES

PERSONAL PROTECTION:

The selection of personal protective equipment varies, depending upon conditions of use.

In open systems where contact is likely, wear safety goggles, chemical-resistant overalls, and chemically impervious gloves. Where only incidental contact is likely, wear safety glasses with side shields. No other special precautions are necessary provided skin/eye contact is avoided.

Where concentrations in air may exceed the occupational exposure limits given in Section 4 and where engineering, work practices or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.

ENGINEERING CONTROLS:

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.

HANDLING, STORAGE AND SHIPPING:

Keep containers closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials. Do not handle or store near an open flame, sources of heat, or sources of ignition. Empty containers may contain product residue. Do not pressurize cut, heat, or weld empty containers. Do not reuse empty containers without commercial cleaning or reconditioning.

LAND SPILL:

Eliminate source of ignition. Keep public away. Prevent additional discharge of material, if possible to do so without hazard. Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth. Recover by pumping or by using a suitable absorbant. Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

WATER SPILL:

Remove from surface by skimming or with suitable absorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in unconfined waters. Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

7. FIRE AND EXPLOSION HAZARD

Flashpoint and method: 220 deg C COC ASTM D92

Autoignition: NA Flammable Limits: LEL: NA UEL: NA

GENERAL HAZARDS:

Low Hazard; liquids may burn upon heating to temperatures at or above the flash point.

Decomposes; flammable/toxic gases will form at elevated temperatures (thermal decomposition).

Toxic gases will form upon combustion.

FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel. Shut off fuel to fire.

Use foam, dry chemical or water spray to extinguish fire.

Respiratory and eye protection required for fire fighting personnel.

Avoid spraying water directly into storage containers due to danger of boilover.

A self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of an SCBA may not be required.

HAZARDOUS COMBUSTION PRODUCTS:

Smoke, carbon monoxide, carbon dioxide and traces of oxides of sulphur

8. REACTIVITY DATA

STABILITY:

This product is stable. Hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents

HAZARDOUS DECOMPOSITION:

Fumes, smoke, carbon monoxide and sulphur oxides in case of incomplete combustion

9. NOTES

All components of this product are listed on the U.S. TSCA inventory.

.

10. PREPARATION

Date Prepared: November 08, 2003
Prepared by: Lubricants & Specialties
IMPERIAL OIL
Products Division
111 St Clair Avenue West
Toronto, Ontario
M5W 1K3
(800) 268-3183

CAUTION: " The information contained herein relates only to this product or material and may not be valid when used in combination with any other product or material or in any process. If the product is not to be used for a purpose or under conditions which are normal or reasonably foreseeable, this information cannot be relied upon as complete or applicable. For greater certainty, uses other than those described in Section 1 must be reviewed with the supplier. The information contained herein is based on the information available at the indicated date of preparation. This MSDS is for the use of Imperial Oil customers and their employees and agents only. Any further distribution of this MSDS by Imperial Oil customers is prohibited without the written consent of Imperial Oil."

JOHNSON MANUFACTURING COMPANY

Material Safety Data Sheet

to comply with 29 CFR 1910.1200,
OSHA's Hazard Communication Standard

Johnson's Soldering Fluid, 01-00

Section I:

Johnson Manufacturing Company
114 Lost Grove Road
Princeton IA 52768

Emergency Telephone (563)-289-5123
CHEMTREC after hours 1-(800)-424-9300
Revised 1/1/2012

Section II: Hazardous Ingredients/Identity information

Hazardous Component	CAS #	OSHA TWA	ACGIH TWA	Other limits	
+ Zinc Chloride	7646-85-7	1mg/M3	1mg/M3	NE	39 %
Ammonium Chloride	12125-02-9	10mg/M3	10mg/M3	NE	
As Zinc Ammonium Chloride					

Only those ingredients listed in this section have been determined to be hazardous as defined in 29CFR 1910.1200.
An ingredient marked with an asterisk(*) is also listed in 29CFR 1910.1200(D) #4 as a known or suspected cancer hazard.

+ denotes a chemical regulated as toxic by the Environmental Protection Agency (EPA) as outlined in 40CFR Part 372 (section 313)

Section III: Physical/Chemical Characteristics

Boiling Point: 230 F	Specific Gravity: 1.403
Vapor Pressure (mm Hg): NE	Melting Point: NE
Vapor Density: NE	Evaporation Rate
Solubility in water: 100	(butyl acetate=1): < 1
Appearance and odor: clear to yellow liquid, wintergreen odor	

Section IV: Fire and Explosion Hazard Data

Flash Point: nonflammable Flammable limits lel: NA uel: NA
Extinguishing media: all
Special fire fighting procedures: Use self contained breathing apparatus
Unusual Fire and Explosion Hazards: May release hydrochloric acid, zinc chloride, zinc oxide.

Section V: Reactivity Data

Stability : STABLE Conditions to avoid : none
Incompatibility(materials to avoid): oxidizers, strong acids & bases, sulfides.
Hazardous Decomposition or Byproducts (incomplete combustion): Hydrochloric acid, zinc oxide, ammonia, zinc chloride
Hazardous Polymerization: WILL NOT OCCUR Conditions to avoid: none

Section VI: Health Hazard Data:

Routes of entry: Inhalation? yes Skin? no Ingestion? yes

Health Hazards (acute and chronic) Contact with material or fumes may cause skin, eye and respiratory tract irritation or burns. Severe inhalation can cause pulmonary edema, which may not manifest for several hours after exposure. Ingestion may result in irritation or burning of the digestive tract. Gross inhalation or ingestion can result in death. LD50 (ZnCl₂)(rat)=350 mg/kg. May be mutagenic in lab animals. May cause sensitization. Chronic exposures can result in permanent liver, kidney and respiratory system effects. Studies show that health risks vary by individual. Minimize exposure as a precaution.

Carcinogenicity: not determined NPT? no IARC Monographs? no

Signs and symptoms of exposure: Inhalation-Nose & throat irritation, headache, dizziness, difficulty breathing, coughing. Ingestion-nausea, vomiting, cramps. Skin-redness, burning, rash, dryness. Eye-redness, burning, tearing, blurred vision.

Medical conditions aggravated by exposure: Skin, kidney and respiratory conditions.

Emergency first aid procedures:

Skin: Flush with water immediately - Seek medical attention if necessary

Eyes: Flush with water for 15 minutes - Seek medical attention

Ingestion: DO NOT induce vomiting, drink large amounts of water - seek medical attention. Never give anything by mouth to an unconscious person

Inhalation: Remove to fresh air. Support respiration if required - Seek medical attention.

Section VII: Precautions for Safe Handling and Use

Steps to be taken if material is released or spilled: Flush into a chemical sewer or soak up with a suitable absorbant.

Waste Disposal Method: dispose of in accordance with all local state and federal regulations

Other Precautions: Avoid skin and eye contact, inhalation and ingestion of fumes and material. Wash contaminated clothing before reuse.

Keep away from children. Do not reuse container.

Section VIII: Control Measures

Respiratory Protection (type): Acid type respirator for fumes and mist.

Ventilation: Local Exhaust preferred Special:NE

Mechanical OK Other:NE

Protective Gloves: plastic or rubber Eye Protection: Goggles or face shield

Other Protective Clothing or Equipment: as required to avoid contact.

Work/Hygenic Practices: Wash after use. Follow good industrial hygienic practices.

Section IX: Additional Information

DOT Classification: Non-Hazardous

NFPA Classification (NFPA 325M, 8th edition) (Health, Flammability, Reactivity): 2-0-0

This product contains components known to the state of California to cause cancer or reproductive harm

The information and recommendations contained within this publication have been compiled from sources believed to be

reliable and to represent the best information available to JOHNSON MANUFACTURING at the time of issue. No warranty, guarantee, or representation is made by JOHNSON MANUFACTURING nor does JOHNSON MANUFACTURING assume any responsibility in connection therewithin; nor can it be assumed that all acceptable safety measures or other safety measures may not be required under particular or exceptional conditions or circumstances.

NE- not established NA = not applicable

Form 303.72 Rev.C

Back

Material Safety Data Sheet

Section 1 General Information

Manufacturer:

Rust-Oleum Corporation

11 Hawthorn Parkway

Vernon Hills, IL 60061

24 Hour Assistance: 1-847-367-7700www.rustoleum.com**Date:** April 6, 2009**Product Name:** Jomax RTU Mold Killer & Deodorizer**Codes:** 60190 60191

Section 2 Hazardous Ingredients

<u>Hazardous Component</u>	<u>CAS#</u>	<u>OSHA</u> <u>PEL</u>	<u>ACGIH</u> <u>TLV</u>
Oxychlorine Compounds	N/A	N/E	N/E
Dimethyl Didecyl Ammonium Chloride	7173-51-5	N/E	N/E
Alcohols	N/A	N/E	N/E

Section 3 Hazard Identification

Emergency Overview:Hazards to Human & Domestic Animals

Caution: Cause moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Avoid contamination of food.

Primary Routes of Exposure:

Skin Contact

Eye Contact

Inhalation

Potential Acute Health Effects:**Eye Contact:** Causes moderate irritation.**Skin:** Causes irritation. Prolonged contact may cause dermatitis.**Ingestion:** Ingestion may be harmful and may causes irritation of the gastrointestinal tract, nausea, vomiting and diarrhea. Ingestion of large amounts may cause central nervous system depression.

N/A: Not Applicable N/D: Not Determined N/E: Not Established N/R: Not Required Est.: Estimated

Inhalation: Inhalation causes respiratory tract irritation and coughing. Exposure to high concentrations results in central nervous system depression with symptoms of headache, dizziness, fatigue, muscular weakness, drowsiness, in-coordination and unconsciousness.

Note: Upon contact with acids, organic materials, reducing agents or chlorine donors, this product will release CHLORINE DIOXIDE gas. Inhalation of chlorine dioxide can cause respiratory tract irritation, coughing, wheezing and burns of the mucous membranes. Inhalation of large amounts may lead to pulmonary edema and bronchitis. Prolonged or repeated inhalation of chlorine dioxide gas may cause chronic bronchitis or emphysema. Direct contact with chlorine dioxide causes eye and skin irritation and may cause burns. Chlorine Dioxide is toxic by ingestion. Oxychlorine compounds have been shown to cause blood disorders in laboratory animals. Exposure to chlorine dioxide may aggravate existing medical conditions may aggravate existing medical conditions such as eye, skin and respiratory disorders and allergies.

(See also Sections 4, 8, and 11 for related information)

Section 4 First Aid Measures

KEEP OUT OF REACH OF CHILDREN

Eye contact: 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

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

Ingestion: If swallowed, call 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.

Inhalation: 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

Section 5 Fire Fighting Measures

Flash Point (method): >200 F (>93 degrees C)

Method: PMCC

Extinguishing Media: Water

N/A: Not Applicable	N/D: Not Determined	N/E: Not Established	N/R: Not Required	Est.: Estimated
---------------------	---------------------	----------------------	-------------------	-----------------

Protection of Firefighters: Evacuate personnel to a safe area. Wear self-contained breathing apparatus (SCBA) and full protective equipment.

Section 6 Accidental Release Measures

Safeguards (Personnel): Note: Review Fire Fighting Measures and Handling sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Accidental Release Measures: Flush with water to dilute. Do not allow contact with rags, paper or other oxidizable materials. For large spills, evacuate area, contain liquid and transfer to closed polyethylene drums. Prevent contact with oxidizers and acids. Do not allow liquid solution to dry. Keep out of water supply. Flush area with water after liquid is removed.

(See also Section 8 for information on Exposure Controls and Personal Protective Equipment)

Section 7 Handling and Storage

Handling: Do not breathe vapor or mist. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Wash clothing after use. Avoid contamination of food and feed products. Do not allow solution to evaporate to dryness. Protect from heat, freezing and ultraviolet light. Keep container closed

Storage: Store in original closed container in a cool, dry place away from heat and open flame.

Section 8 Exposure Controls / Personal Protection

Engineering Controls: Use only with adequate ventilation. Safety shower and eyewash facilities should be immediately accessible.

Personal Protective Equipment (PPE):

Eye Protection: Wear safety glasses. Where splash potential exists, wear chemical splash goggles.

Skin Protection: Impervious gloves.

Respiratory Protection: Wear NIOSH approved respiratory protection, as appropriate.

N/A: Not Applicable N/D: Not Determined N/E: Not Established N/R: Not Required Est.: Estimated

Protective Clothing: Where there is potential for skin contact, have available and wear as appropriate impervious gloves, apron, pants and jacket and boots.

General Hygiene Practices: Avoid eye and skin contact. Avoid breathing vapors. Wash hands before eating and drinking. Do not smoke while using this material.

Section 9 Physical Data

Appearance: Clear

Odor: Alcohol

Physical State: liquid Solution

pH: 9.0

Boiling Point: 93.3 degrees C

Vapor Pressure: Approximates Water

Solubility in Water: 100%

Density: 8.44 lb/gallon

Specific Gravity (water = 1): 1.012

Section 10 Stability and Reactivity

Stability: Stable at normal temperature and storage conditions.

Hazardous Polymerization: Polymerization will not occur

Hazardous Decomposition Products: Decomposes with heat and UV light.

Incompatibility with Other Materials: None reasonably foreseeable.

Section 11 Toxicological Information

Carcinogenicity: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

(See also Section 15 for related information)

Section 12 Ecological Information

No Data Available

Section 13 Disposal Considerations

N/A: Not Applicable N/D: Not Determined N/E: Not Established N/R: Not Required Est.: Estimated

RCRA Hazardous Waste: This material is not considered hazardous waste under Federal Hazardous Waste Regulations (40CFR 261). However, state and local requirements for waste disposal may be more restrictive or otherwise differ from federal regulations. Chemical additions, processing or otherwise altering this material may render the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Consult all applicable federal, state, and local regulations regarding the proper disposal of this material. Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local Regulations.

Recommended Waste Disposal Method: Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. For container disposal, triple rinse (or equivalent), then place in trash receptacle.

Section 14 Transportation Information

This product is not regulated as a hazardous material by DOT, IMO, or IATA

Section 15 Regulatory Information

CERCLA:

The Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification to the National Response Center for releases of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4 (for CERCLA 102).

Components present in this product at a level which could require reporting under the statute are:

<u>Chemical Name</u>	<u>CAS#</u>	<u>Maximum Concentration (Wt. %)</u>
None	N/A	N/A

SARA Title III, section 311/312:

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312).

Components present in this product at a level which could require reporting under the statute are:

<u>Chemical Name</u>	<u>CAS#</u>	<u>Maximum Concentration (Wt. %)</u>
None	N/A	N/A

SARA Title III, section 313:

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313).

Components present in this product at a level which could require reporting under the statute are:

N/A: Not Applicable N/D: Not Determined N/E: Not Established N/R: Not Required Est.: Estimated

Chemical Name
None

CAS#
N/A

Maximum Concentration (Wt. %)
N/A

FIFRA Registration:

EPA registration number is 71654-22-71240

TSCA:

The components of this mixture are listed in the Toxic Substance Control Act Inventory of Chemical Substances.

This product does not contain any chemicals that require export notification under Section 12(b) of the TSCA regulation.

Section 16 Other Information

Legend: N/A: Not Applicable
N/E: Not Established
cps: Centipoise
STEL: Short Term Exposure Limit
PPM: Parts per Million
PEL: Permissible Exposure Limit
TWA: Time Weighted Average
mppcf: Million particles per cubic foot of air.
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration (US Dept. of Labor)
PMCC: Pensky-Martens Closed Cup
RCRA: Resource Conservation and recovery Act
SARA: Superfund Amendment and Reauthorization Act
TSCA: Toxic Substance Control Act
FHSA: Federal Hazardous Substance Act

N/D: Not Determined
N/R: Not Required
KU: Krebs Units
C: OSHA Ceiling Value
PPB: Parts Per Billion
TLV: Threshold Limit Value
mg/m³: Milligrams per cubic Meter

Prepared By: Rust-Oleum Regulatory Compliance Dept.
173 Belmont Drive Somerset, NJ 08875 (732) 469-8100

Disclaimer: Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this material safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liabilities for personal injury or property damage incurred by the use of these materials and make no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the

N/A: Not Applicable N/D: Not Determined N/E: Not Established N/R: Not Required Est.: Estimated

final suitability of this information and data and to comply with all applicable international, federal, state, and local laws and regulations.

N/A: Not Applicable	N/D: Not Determined	N/E: Not Established	N/R: Not Required	Est.: Estimated
---------------------	---------------------	----------------------	-------------------	-----------------

Section 1. General Information

		HMIS	
		Health Hazard	2
		Fire Hazard	0
		Reactivity	0
		Personal Protection s	
Common Name	KAIBLOOEY RESTROOM CLEANER	In case of Emergency	
Code	0915	DOT	Class 8
			No products were found.
HCS Risk Phrases	HCS CLASS: Corrosive liquid.		
Federal and State Regulations	TSCA: No products were found. 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: No products were found. SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found. Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: No products were found. Clean air act (CAA) 112 accidental release prevention: No products were found. Clean air act (CAA) 112 regulated flammable substances: No products were found. Clean air act (CAA) 112 regulated toxic substances: No products were found.		

Section 2. Hazardous Ingredients

Name	CAS #	% by weight	TLV/PEL	LC50/LD50
Ethoxylated C12-15 alcohol	68131-39-5	5 - 10	Not available.	ORAL (LD50): Acute: 4150 mg/kg [Rat].
Dipropylene glycol monomethyl ether	34590-94-8	3 - 7	ACGIH TLV (United States). TWA: 100 ppm 8 hour(s).	ORAL (LD50): Acute: 5380 mg/kg [Rat]. 5200 mg/kg [Rat]. DERMAL (LD50): Acute: 9510 mg/kg [Rabbit].
Sulfamic acid	5329-14-6	1 - 5	Not available.	ORAL (LD50): Acute: 3160 mg/kg [Rat].

Section 3. Special Protection

Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Ventilation	Provide exhaust ventilation or other engeneering 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.
Eye Protection	Splash goggles.
Protective gloves	Gloves (impervious)
Other Protective Equipment	Full suit, apron, face shield, respiratory mask, boots: are recommanded under exceptional circumstances such as fire, spill, or for prolonged contact with bulk quantities.

Section 4. Health Hazards Data

Routes of Entry	Eye contact. Ingestion. Inhalation. Skin contact.
Potential Acute Health Effects	Dangerous in case of skin contact (corrosive), of eye contact (corrosive), of ingestion, of inhalation: liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract.
Effects of overexposure	Not available.
Emergency and First Aid Procedures	
Eye Contact	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water.
Inhalation	Allow the victim to rest in a well ventilated area. If discomfort persists seek medical attention.
Ingestion	DO NOT induce vomiting. Have conscious person drink several glasses of water. Seek immediate medical attention.
Other Toxic Effects on Humans	Dangerous in case of skin contact (corrosive, irritant), of eye contact (irritant), of ingestion, of inhalation.
Threshold Limit Value	Not available.

Section 5. Physical Data

Physical state	Liquid.	Odour	Wintergreen.
Boiling Point	> 100°C (212°F)	Taste	Not available.
Melting Point	0°C (32°F)	Colour	Blue.
Critical Temperature	Not available.	Molecular Weight	Not applicable.
Volatility	Not available.	pH (in water)	< 1

Evaporation Rate	Not available.	pH (concentrate)	Not available
Vapour Pressure	The highest known value is 2.3 kPa (17.2 mm Hg) (at 20°C) (Water).	Vapour Density	Not available.
Ionicity (in water)	Not available.	Specific Gravity	Not available
Dispersion Properties	See solubility in water.	Viscosity	Not available.
Solubility	Easily soluble in cold water, hot water.	Odour Threshold	Not available

Section 6. Fire and Explosion Data

Flash Points	Not available.
Flammable Limits	Not available.
Extinguishing Media and Instructions	SMALL FIRE: Use DRY chemicals, CO2, water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.
Special Firefighting Procedures	Not available.
Unusual Fire Explosion Hazards	No specific information is available in our database regarding the product's risks of explosion in the presence of various materials.

Section 7. Reactivity Data

Chemical Stability	The product is stable.
Conditions of Instability	Not available.
Incompatibility with various substances	Reactive with alkalis and oxidizing agents.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization (will or will not occur)	No.

Section 8. Special Precautions

Handling	Avoid contact with skin and eyes.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.
Other Precautions	Wear suitable protective clothing, gloves and eye/face protection.In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

Section 9. Spill or Leak Procedures

Steps to be taken if material is released or spilled	Absorb with an inert DRY material and place in an appropriate waste disposal container. Dispose of in accordance with federal, provincial, or local regulations.
Waste Disposal	Dispose of material according to regional, provincial and federal regulations. Consult your local or regional authorities.

Section 10. Additional Information

References

Validated by the Regulatory Affairs Department on 24 Oct. 2007

Printed 5 Feb. 2008

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 of 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

Section 1: Chemical Product and Company Information

1.1 Product Identifier

Product Name: KaiPow

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Use: Water based cleaner

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer: Kaivac Cleaning Systems
401 South Third St.
Hamilton, OH 45011

1.4 Emergency Telephone Number: 800-287-1136

Telephone Number for Information: 800-287-1136

Email:

SDS Date of Preparation/Revision: November 24, 2014

Section 2: Hazards Identification

2.1 Classification of the Substance or Mixture

EU Classification (1272/2008): Eye Damage Category 1C (H318)
Skin Corrosion Category 1C (H314)

EU Classification (1999/45/EC): C, Xi R41, R34

US OSHA Classification (29CFR1910.1200): Eye Damage Category 1
Skin Corrosion Category 1C

Refer to Section 16 for Full Text of EU Classes and R Phrases

2.2 Label Elements:



DANGER! Contains sodium hydroxide and surfactants

H314 Causes severe skin burns and eye damage.

Prevention:

P260 Do not breathe mists.

P280 Wear protective gloves and eye protection.

P264 Wash thoroughly after handling.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance with local and national regulations.

Response:

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contacts, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P310 Immediately call a POISON CENTER or doctor.

P303+P361+P353 IF ON SKIN(or hair): Take off immediately all contaminated clothing. Rinse skin with water or a shower.

	P363 Wash contaminated clothing before reuse. P310 Immediately call a POISON CENTER or doctor. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P310 Immediately call a POISON CENTER or doctor.
--	---

2.3 Other Hazards: None identified

Section 3: Composition/Information on Ingredients

3.2 Mixture

Component	CAS Number/ EINECS Number.	Amount	EU/GHS Classification (1272/2008) EU Classification (67/548/EEC)
Sodium Hydroxide	1310-73-2/215-185-5	1-5%	C, R35 Eye Damage 1 (H318) Skin Corrosion 1A (H314)
(2-methoxymethyl ethoxy)propanol	34590-94-8/252-104-2	3-5%	Not Hazardous
Sodium Metasilicate Anhydrous	6834-92-0/229-912-9	1-3%	C, R34 Eye Damage 1 (H318) Skin Corrosion 1B (H314) STOT SE 3 (resp) (H335) Metal Corrosion 1 (H290)

Refer to Section 16 for Full Text of EU/GHS Classes and R Phrases/H Statements

The exact percentages are a trade secret.

Section 4: First Aid Measures

4.1 Description of First Aid Measures

First Aid

Eyes: Immediately flush eyes with water for at least 20 minutes while lifting the upper and lower lids. Get immediate medical attention.

Skin: Immediately wash with soap and water until no trace of the chemical remains. Remove contaminated clothing and launder before reuse. Get immediate medical attention.

Ingestion: If conscious, rinse mouth with water and give 1 glass of water to dilute. Do not induce vomiting. Never give anything by mouth to a person who is unconscious or convulsing. Get immediate medical attention

Inhalation: Remove to fresh air. If breathing has stopped give artificial respiration. If breathing is difficult have qualified personnel administer oxygen. Get immediate medical attention..

See Section 11 for more detailed information on health effects.

4.2 Most Important symptoms and effects, both acute and delayed: Causes severe eye irritation or burns with possible corneal damage and blindness. Skin contact may cause severe irritation or burns. Vapors or mists may cause irritation mucous membranes and respiratory tract with possible pulmonary edema. Ingestion may cause gastrointestinal corrosion, abdominal pain, nausea, shock or death.

4.3 Indication of any immediate medical attention and special treatment needed: Medical treatment is required for all incidents of contact or exposure.

Section 5: Fire Fighting Measures

5.1 Extinguishing Media: Use any media that is suitable for the surrounding fire.

5.2 Special Hazards Arising from the Substance or Mixture: Not flammable or combustible. Hazardous decomposition products may yield sodium and carbon oxides.

5.3 Advice for Fire-Fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective clothing as needed to prevent eye and skin contact.

6.2 Environmental Precautions: Avoid contamination of water supplies and environmental releases. Report spills as required to authorities.

6.3 Methods and Material for Containment and Cleaning Up: Contain and collect spill with inert materials such as commercial absorbent, sand or earth. Place in a suitable container for disposal. If permitted, neutralize and flush to sewer.

6.4 Reference to Other Sections:

Refer to Section 13 for disposal information and Section 8 for protective equipment.

Section 7: Handling and Storage

7.1 Precautions for Safe Handling:

Prevent eye and skin contact. Do not breathe spray mists. Use only with appropriate protective equipment. Immediately remove and launder contaminated clothing before re-use. Wash thoroughly after handling and before eating, drinking, smoking or using toilet facilities.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, well-ventilated area away from incompatible materials.

7.3 Specific end use(s):

Industrial uses: None identified

Professional uses: None identified

Section 8: Exposure Controls / Personal Protection

8.1 Control Parameters:

Chemical Name	US OEL	EU IOEL	UK OEL	DFG MK	Biological Limit Value
Sodium Hydroxide	2 mg/m3 TWA OSHA PEL 2 mg/m3 CEIL ACGIH TLV	None Established	2 mg/m3 STEL	None Established	None Established
(2-methoxymethyl ethoxy)propanol	100 ppm TWA OSHA PEL 100 ppm TWA, 150 ppm STEL skin ACGIH TLV	50 ppm TWA	50 ppm TWA	50 ppm Ceiling (inhalable fraction and vapor)	None Established

Sodium Metasilicate Anhydrous	None Established	None Established	None Established	None Established	None Established
-------------------------------	------------------	------------------	------------------	------------------	------------------

8.2 Exposure Controls:

Appropriate Engineering Controls: General ventilation is generally adequate for normal use. Use local exhaust ventilation if needed to maintain concentration of hazardous constituents below recommended limits.

Personal Protective Measures

Respiratory Protection: Not necessary if workplace concentrations of hazardous constituents are below recommended limits. If the exposure limit is exceeded, an approved respirator should be worn. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable local or national regulations, in the US: OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Eye Protection: Use chemical safety goggles and a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area. Contact lenses pose a special hazard; do not wear contact lenses.

If necessary, refer to U.S. OSHA 29 CFR 1910.133.

Skin Protection: Impervious gloves such as nitrile recommended where contact is likely. Wear protective clothing as required to avoid any skin contact when handling.

Other protection: None required.

Section 9: Physical and Chemical Properties

9.1 Information on basic Physical and Chemical Properties:

Appearance and Odor: Clear blue liquid with a floral odor.

Solubility in Water:	Soluble	Boiling Point:	210°F
Odor Threshold:	Not determined	Partition Coefficient:	Not determined
pH:	Concentrate: 11.4, Diluted: 10.4-11	Melting Point:	Not determined
Specific Gravity:	1.05	Vapor Density:	Not determined
Evaporation Rate:	Not determined	Vapor Pressure:	Not determined
Flammability(solid/gas):	Not determined	Flash Point:	Not determined
Explosive Limits:	Not determined	Autoignition Temperature:	Not determined
Decomposition Temperature:	Not determined	Viscosity:	Not determined
Explosive Properties:	Not determined	Oxidizing Properties:	None

9.2 Other Information: None

Section 10: Stability and Reactivity

10.1 Reactivity: Not reactive under normal conditions of use and storage.

10.2 Chemical Stability: Stable.

10.3 Possibility of Hazardous Reactions: None known.

10.4 Conditions to Avoid: None known.

10.5 Incompatible Materials: None known.

10.6 Hazardous Decomposition Products: Hazardous decomposition products may yield sodium oxides and toxic fumes of sulfur oxide and hydrogen chloride.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects:

Potential Health Hazards

Inhalation: Mist and vapors may cause irritation to the eyes, mucous membranes and upper respiratory tract. High concentrations may cause severe irritation and pulmonary edema.

Skin Contact: May cause severe irritation and burns with reddening and pain. Prolonged or repeated skin contact with diluted solutions or mists may cause dermatitis.

Eye Contact: Liquid or mists may cause severe irritation or burns with tearing and blurred vision. Permanent damage and blindness may occur.

Ingestion: May cause gastrointestinal corrosion, abdominal pain and nausea, circulatory shock and death.

Acute toxicity values: Product ATE: Oral > 24900 mg/kg, inhalation (vapor) > 22 mg/L, dermal > 88828 mg/kg. (2-methoxymethylethoxy)propanol: LD50 oral rat > 5000 mg/kg, LC0 inhalation rat > 1.69 mg/L, LD50 dermal rabbit: 9510 mg/kg.

Sodium Metasilicate Anhydrous: LD50 oral rat: 994.7 mg/kg, LC50 inhalation rat > 2.06 mg/L/4hr, LD50 dermal rat > 5000 mg/kg.

Skin corrosion/irritation: Corrosive to skin

Eye damage/ irritation: Product is damaging to eyes.

Respiratory Irritation: Prolonged inhalation may cause respiratory irritation.

Respiratory Sensitization: Not known to be a sensitizer.

Skin Sensitization: Not known to be a sensitizer.

Germ Cell Mutagenicity: This product is not expected to present a risk of genetic damage

Carcinogenicity: None of the components is listed as a potential carcinogen by IARC, NTP, OSHA or the EU CLP.

Developmental / Reproductive Toxicity: No specific data is available.

Specific Target Organ Toxicity (Single Exposure): No specific data is available.

Specific Target Organ Toxicity (Repeated Exposure): No specific data is available. No adverse effects are expected.

Section 12: Ecological Information

12.1 Toxicity:

(2-methoxymethylethoxy)propanol: *Poecilia reticulata* LC50 > 1000 mg/L/96hr

Sodium Metasilicate Anhydrous: *Gambusia affinis* LC50: 2320 mg/L/96hr

12.2 Persistence and degradability: Surfactants are readily biodegradable.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: None required.

12.6 Other Adverse Effects: No data available.

Section 13: Disposal Considerations

13.1 Waste Treatment Methods:

Dispose in accordance with all local, state and national regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations

Section 14: Transport Information

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
US DOT	UN3266	Corrosive liquid, basic, inorganic, n.o.s. (sodium hydroxide, sodium metasilicate)	8	III	No
Canadian TDG	UN3266	Corrosive liquid, basic, inorganic, n.o.s. (sodium hydroxide, sodium metasilicate)	8	III	No
EU ADR/RID	UN3266	Corrosive liquid, basic, inorganic, n.o.s. (sodium hydroxide, sodium metasilicate)	8	III	No
IMDG	UN3266	Corrosive liquid, basic, inorganic, n.o.s. (sodium hydroxide, sodium metasilicate)	8	III	No
IATA/ICAO	UN3266	Corrosive liquid, basic, inorganic, n.o.s. (sodium hydroxide, sodium metasilicate)	8	III	No

Note: These products can be shipped under limited quantity provisions – refer to specific regulations for requirements.

14.6 Special Precautions for User: None identified

14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not applicable.

Section 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

UNITED STATES REGULATIONS:

U.S. SARA Reporting Requirements: The components of this product are not subject to the reporting requirements of Sections 302, 304, and 313 Of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA Threshold Planning Quantity: There are no specific Threshold Planning Quantities for the components of this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

U.S. CERCLA Reportable Quantity (RQ): This product has a Reportable Quantity (RQ) of 20,000 lbs. (based on the RQ for Sodium Hydroxide of 1000 lbs present at <5%). Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

U.S. TSCA Inventory Status: The components of this product are listed on the TSCA Inventory or are exempted from listing.

Other U.S. Federal Regulations: None

California Safe Drinking Water And Toxic Enforcement Act (Proposition 65): Ingredients within this product are not on the Proposition 65 Lists.

Section 16: Other Information

NFPA RATING (NFPA 704)	FIRE: 0	HEALTH: 3	INSTABILITY: 0
HMIS RATING	FIRE: 0	HEALTH: 3	PHYSICAL HAZARD: 0

EU and GHS Classes and Risk Phrases and Hazard Statements for Reference (See Sections 2 and 3):

H318 Causes serious eye damage.

H314 Causes severe skin burns and eye damage.

H290 May be corrosive to metals

H335 May cause respiratory irritation

STOT SE 3 Specific Target Organ Toxicity – Single Exposure Category 3

C Corrosive

Xi Irritant

Xn Harmful

R34 Causes burns

R35 Causes severe burns

R41 Risk of serious eye damage

Revision Date: 11/24/14

Supersedes Date: 03/14/14

Revision Summary: Convert to REACH/GHS Format with GHS/CLP classification.

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. Kaivac assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, Kaivac assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.



Super Three Star® Synthetic Gear Lubricant (All Grades)

Material Safety Data Sheet

1. Product and Company Identification

Product Name:	Super Three Star® Synthetic Gear Lubricant (All Grades)
MSDS Number:	778680
Synonyms/Other Means of Identification:	Kendall Super Three Star® Synthetic Gear Lubricant, SAE 75W-90 Kendall Super Three Star® Synthetic Gear Lubricant, SAE 80W-140
Intended Use:	Automotive Gear Oil
Manufacturer:	ConocoPhillips Lubricants 600 N. Dairy Ashford, 2W900 Houston, Texas 77079-1175
Emergency Health and Safety Number:	Chemtrec: 800-424-9300 (24 Hours)
Customer Service:	U.S.: 800-368-7128 or International: +1-83-2486-3363
Technical Information:	1-877-445-9198
MSDS Information:	http://www.conocophillips.com/EN/products/Pages/msds.aspx

2. Hazards Identification

Emergency Overview

This material is not considered hazardous according to OSHA criteria.

NFPA



Appearance: Amber
Physical Form: Liquid
Odor: Petroleum

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. Repeated exposure may cause skin dryness or cracking. A component of this material may cause an allergic skin reaction. No harmful effects from skin absorption are expected.

Inhalation (Breathing): No information available on acute toxicity.

Ingestion (Swallowing): Low degree of toxicity by ingestion.

Signs and Symptoms: Inhalation of oil mists or vapors generated at elevated temperatures may cause respiratory irritation. Accidental ingestion can result in minor irritation of the digestive tract, nausea and diarrhea.

Pre-Existing Medical Conditions: Conditions which may be aggravated by exposure include skin disorders

See Section 11 for additional Toxicity Information.

3. Composition / Information on Ingredients

Component	CASRN	Concentration*
Synthetic Lubricant Base Oil	PROPRIETARY	>40
Additives	PROPRIETARY	<60

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. 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 in a position comfortable for breathing. If symptoms persist, seek medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Notes to Physician: Acute aspirations of large amounts of oil-laden material may produce 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

NFPA 704 Hazard Class

Health: 0 **Flammability:** 1 **Instability:** 0 (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. 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 / 100°C. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, 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 and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. 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 safely. Avoid spreading burning liquid with water used for cooling purposes.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulfur, nitrogen or phosphorus may also be formed.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

6. Accidental Release Measures

Personal Precautions: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

Methods for Containment and Clean-Up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents).

7. Handling and Storage

Precautions for safe handling: Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes.

"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.

Conditions for safe storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated area 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

Component	US-ACGIH	OSHA	Other
Synthetic Lubricant Base Oil	5mg/m ³ TWA 10 mg/m ³ STEL as Oil Mist, if Generated	5 mg/m ³ TWA as Oil Mist, if Generated	---

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.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Suggested protective materials: Nitrile

Respiratory Protection: Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with R or P95 filters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

9. Physical and Chemical Properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance:	Amber
Physical Form:	Liquid
Odor:	Petroleum
Odor Threshold:	No data

pH:	Not applicable
Vapor Pressure:	<1 mm Hg
Vapor Density (air=1):	>1
Boiling Point/Range:	No data
Melting/Freezing Point:	No data
Solubility in Water:	Negligible
Partition Coefficient (n-octanol/water) (Kow):	No data
Specific Gravity (water=1):	0.87 - 0.88 @ 60°F (15.6°C)
Bulk Density:	7.24 - 7.33 lbs/gal
Viscosity:	16.5 - 27.5 cSt @ 100°C; 108 - 233 cSt @ 40°C
Percent Volatile:	Negligible
Evaporation Rate (nBuAc=1):	<1
Flash Point:	Minimum 302°F / 150°C
Test Method:	Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010
LEL (vol % in air):	No data
UEL (vol % in air):	No data
Autoignition Temperature:	No data

10. Stability and Reactivity

Stability: Stable under normal ambient and anticipated conditions of use.

Conditions to Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous Decomposition Products: Not anticipated under normal conditions of use.

Hazardous Polymerization: Not known to occur.

11. Toxicological Information

Chronic Toxicity:

No definitive information available on carcinogenicity, mutagenicity, target organ or developmental toxicity.

Acute Toxicity:

Component	Oral LD50	Dermal LD50	Inhalation LC50
Synthetic Lubricant Base Oil	LD50 (rat) >5,000 mg/kg (similar material)	LD50 (rat) >2,000 mg/kg (similar material)	No data

12. Ecological Information

Ecological Information: Not evaluated.

13. Disposal Considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle Used Oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

14. Transportation Information

U.S. Department of Transportation (DOT)

Shipping Description:

Not regulated

Note:

If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)

International Maritime Dangerous Goods (IMDG)

Shipping Description:

Not regulated

Note:

U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25.

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

UN/ID #:

Not regulated

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	---	---	---
Max. Net Qty. Per Package:	---	---	---

15. Regulatory Information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):

This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Acute Health:	No
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

CERCLA/SARA - Section 313 and 40 CFR 372:

This material does not contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

EPA (CERCLA) Reportable Quantity (in pounds):

This material does not contain any chemicals with CERCLA Reportable Quantities.

California Proposition 65:

Warning: This material may contain detectable quantities of the following chemicals, known to the State of California to cause cancer, birth defects or other reproductive harm, and which may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Component	Type of Toxicity
1, 4-Dioxane	Cancer
Ethyl Acrylate	Cancer
Ethylene Oxide	Cancer
	Female Reproductive Toxicant
Propylene Oxide	Cancer

Canadian Regulations:

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 Regulations.

WHMIS Hazard Class
None

National Chemical Inventories:

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.
All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

16. Other Information

Date of Issue:	22-Jan-2010
Status:	FINAL
Previous Issue Date:	28-Jul-2008
Revised Sections or Basis for Revision:	Responsible party (Section 1)
MSDS Number:	778680

Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

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.

Product Name: **Keracolor™ U**Product Description: **Premium-Grade, Polymer-Modified Unsanded Grout**

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPLOSION, EXPOSURE OR ACCIDENT CONTACT THE FOLLOWING NUMBERS:

EMERGENCY 24 HOUR NUMBER (USA) CHEMTREC 1-800-424-9300 (Canada) CANUTEC 1-613-996-6666

CONSUMER STATEMENT:

DANGER - CORROSIVE. SKIN, EYE AND RESPIRATORY IRRITANT. CONTAINS KNOWN OR PROBABLE HUMAN CARCINOGEN. HARMFUL OR FATAL IF SWALLOWED.

WORK AND HYGIENE PRACTICE:

Remove contaminated clothing immediately. Wash hands, after each use and before eating, drinking, or using toiletries. Minimize contact of product on skins.

I - GENERAL INFORMATION**MANUFACTURER:**

USA and Puerto Rico Canada
MAPEI CORPORATION MAPEI INC.
1144 East Newport Center Drive 2900 Francis-Hughes Avenue
Deerfield Beach, FL 33442 Laval, QC H7L 3J5
Ph: (954) 246-8888 Ph: (450) 662-1212

MSDS PREPARED BY:

Regulatory Affairs Department - MAPEI North America

REVISION DATE (YYYY/MM/DD): 2005/07/16

For most current MSDS, download document from: www.mapei.com

II - PHYSICAL CHARACTERISTICS

Calculated VOC (See below.)	0 g/L
Boiling Point	N/A
Vapor Pressure (mmHg)	N/A
Vapor Density (AIR=1)	N/A
Specific Gravity (H2O=1)	2,00 - 2,30
Melting/Freezing Point (F)	N/A
Evaporation Rate (Butyl Acetate=1)	N/A
Solubility in water	Soluble
pH (paste/liquid)	11,0 - 13,0
Appearance and Odor	Powder. Various colors. General cement odor.

(VOC per CA South Coast Air Quality Management District, Rule 1168)

III - HAZARD ASSESSMENT**Hazardous Components**

(specific chemical identity; common names):

	OSHA (PEL)	ACGIH (TLV-TWA)	Other Limits Recommended	% Percent (Optional)
Hydraulic Cement (CAS# 65997-15-1)	15mg/m³	10mg/m³	N/E	30 - 60
Calcium Carbonate (CAS# 1317-65-3)	5mg/m³	10mg/m³	N/E	30 - 60
Aluminium Hydroxide (CAS# 21645-51-2)	10mg/m³	10mg/m³	N/E	1 - 5

For California (Proposition 65): This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive toxicity.

All ingredients are listed within or exempted from US TSCA and Canadian DSL.

(USA) - HMIS (Hazardous Materials Identification System) Rating: Health - 3 Fire - 0 Reactivity - 0 Protection - E *** = chronic effect

(Canada) - WHMIS (Workplace Hazardous Materials Information System) Classifications: E and D2A

IV - TRANSPORTATION

By GROUND - USA and Puerto Rico (DOT):

Not Regulated

By SEA (IMDG):

Not Regulated

By GROUND - Canada (TDG):

Not Regulated

By AIR (IATA):

Not Regulated

V - FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A Lower Explosive Limit (%) - N/A Upper Explosive Limit (%) - N/A

Unusual Fire and Explosion Hazards - Some decomposition products may be harmful.

Extinguishing Media:

Will not burn except under extreme temperatures. Water spray, carbon dioxide, dry chemical or foam.

Special Fire Fighting Procedures:

Wear standard fire fighting gear with self-contained breathing apparatus.

VI - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None known.

Incompatibility (Materials to Avoid): Strong oxidizing agents, strong acids, and strong bases.

Hazard Decomposition of By-products: Carbon monoxide, carbon dioxide, oxides of nitrogen, and other unidentified organic compounds.

Polymerization: Will Not Occur **Conditions to Avoid:** None known.

VII - HEALTH HAZARD DATA

Routes of entry during normal usage: Inhalation? YES Skin? YES Ingestion? NO

Health Hazards:

Acute: Inhalation or contact can cause irritation to eyes, skin, nose or throat to sensitive people.

Chronic: Repeated (long term) inhalation of dust may result in silicosis.

Carcinogenicity: NTP - YES IARC - NO OSHA - NO *Crystalline Silica - NTP Rating 1*

Signs and Symptoms of Overexposure:

Dry skin, dermatitis, dry cough, irritated eyes from dust or any other potential adverse condition related to the alkaline nature of wet cement.

Medical Conditions That Can Be Aggravated by Exposure:

Allergies, skin and respiratory disorders. Product sensitivity.

VIII - EMERGENCY AND FIRST AID PROCEDURE

Eyes: Flush with cool water for 15 minutes while holding eyelid open. If irritation persists, seek medical attention immediately.

Skin: Avoid contact with skin. Remove contaminated clothing. Wash affected area thoroughly with soap and water. If irritation persists, seek immediate medical attention.

Inhalation: Remove to fresh air if allowable concentrations of any of the hazardous ingredients are exceeded. If not breathing, trained personnel should initiate artificial respirations and immediate medical attention should be obtained.

Ingestion: Do not induce vomiting. Do not give anything by mouth to an unconscious person. Seek medical attention immediately.

IX - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken if Material is Leaked or Spilled:

Wear protective equipment. Contain by diking with inert absorbent materials and put into an approved waste container.

Waste Disposal Method: Dispose in accordance to local environmental regulation.

Precautions to be taken during Handling and Storage:

Store in a manner to prevent dusty conditions.

Other Precautions: Avoid prolonged skins contact.

X - CONTROL MEASURES

Respiratory Protection:

During work with dry product it is recommended to wear a NIOSH/MSHA approved respirator in absence of proper environmental control. Engineering or administrative controls should be implemented to reduce exposure to dust.

Ventilation:	Local Exhaust -	Use in WELL VENTILATED areas only.	Mechanical -	Use only intrinsically safe devices.
	Special -	N/A	Other -	N/A

Eye Protection: Safety glasses or goggles as necessary to prevent eye contact.

Protective Gloves: Impervious. (Nitrile, rubber, or better)

Other Protective Equipment: As needed to minimize contact with skin.

N/A="Not Applicable" N/E="Not Established"

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. MAPEI assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by the material. Such vendees or users assume all risks associated with the use of the material.



PRINT



EMAIL



LABEL



GLOSSARY



Masterchem Industries LLC

View 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: **KILZ 2® Latex**
Product Number: 2000
Manufacturer Name: Masterchem Industries LLC
Address: 3135 Old Highway M
Imperial MO 63052-2834

U.S. Contact Info.:

Business Phone: (636) 942-2510
Technical Service Phone: (800) 325-3552
Business Fax: (636) 942-3663

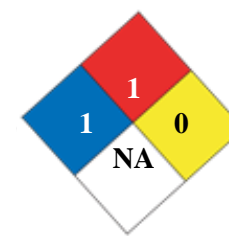
Canadian Contact Info.:

Business Phone: (800) 661-1591
Technical Service Phone: (800) 661-1591
Business Fax: (403) 273-1128

For emergencies in the US, call CHEMTREC: 800-424-9300

In Canada, call CANUTEC: (613) 996-6666 (call collect)

NFPA




HMIS

HEALTH	1
FIRE	1
REACTIVITY	0
PPE	

[To Top of page](#)

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTSProduct No.
2000

Chemical Name	CAS#	Lower Percent	Upper Percent
Styrene resin	No data	10	30
Titanium dioxide	13463-67-7	10	30
Talc, Magnesium silicate hydrate	14807-96-6	5	10
Nepheline Syenite	37244-96-5	1	5
Ethylene Glycol	107-21-1	1	5
Vinyl acrylic polymer	No data	1	5
Non-hazardous ingredients		30	60

[To Top of page](#) **SECTION 3: HAZARDS IDENTIFICATION**Product No.
2000

Emergency Overview: Irritant.

Applies to all Ingredients**Potential Health Effects:**


Eye Contact:	May cause irritation.
Skin Contact:	May cause irritation.
Inhalation:	Prolonged or excessive inhalation may cause respiratory tract irritation.
Ingestion:	May be harmful if swallowed. May cause vomiting.
Chronic Skin Contact:	Prolonged or repeated contact may cause skin irritation.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system.
Signs/Symptoms:	Overexposure may cause headaches and dizziness.
Aggravation of Pre-Existing Conditions:	None generally recognized.

[To Top of page](#) **SECTION 4: FIRST AID MEASURES**Product No.
2000

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.

[To Top of page](#) 

SECTION 5: FIRE FIGHTING MEASURES

Product No.
2000

Flash Point:

No Data

Extinguishing Media:

Use alcohol 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 pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

[To Top of page](#) 

SECTION 6: ACCIDENTAL RELEASE MEASURES

Product No.
2000

Personal Precautions:


Use proper personal protective equipment as listed in section 8.

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.

Environmental Precautions:

Avoid runoff into storm sewers, ditches, and waterways.

[To Top of page](#) 

SECTION 7: HANDLING AND STORAGE

Product No.
2000

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.

[To Top of page](#) 

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTIONProduct No.
2000

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.
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.
Hand Protection Description:	Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data.
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.
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.

Ingredient Guidelines**Guideline Type****Guideline Information****Ethylene Glycol**

ACGIH TLV-STEL

C 100 mg/m3 (Aerosol only)

Talc, Magnesium silicate hydrate

OSHA PEL-TWA

20 mg/m3

ACGIH TLV-TWA

2 mg/m3 (Respirable)

Titanium dioxide

ACGIH TLV-TWA

10 mg/m3

OSHA PEL-TWA

15 mg/m3

[To Top of page](#) **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**Product No.
2000


Physical State/Appearance:	Liquid
Color:	White
pH:	8.5 to 9.5
Vapor Density:	Greater than 1 (Air = 1)
Density:	10 - 12 Lbs./gal.
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	No Data
VOC:	Material VOC: 36gm/l (Includes Water)" "Coating VOC: 99 gm/l (Excludes Water)

[To Top of page](#) 

SECTION 10: STABILITY AND REACTIVITY

Product No.
2000

Chemical Stability:	Stable under normal temperatures and pressures.
Conditions to Avoid:	Heat, flames, incompatible materials, and freezing or temperatures below 32 deg. F.
Incompatibilities with Other Materials:	Oxidizing agents. Strong acids and alkalis.
Hazardous Polymerization:	Not reported.
Hazardous Decomposition Products:	Incomplete combustion may produce carbon monoxide and other toxic gases.

[To Top of page](#) 

SECTION 11: TOXICOLOGICAL INFORMATION

Product No.
2000

Ethylene Glycol

Eye Effect:	Eye - Rabbit; Standard Draize : 500 mg/24H; Mild. Eye - Rabbit; Standard Draize : 1440 mg/6H; Moderate. (RTECS)
Skin Effects:	Skin - Rabbit; Open irritation : 555 mg; Mild. (RTECS)
Ingestion Effects:	Ingestion - Rat LD50: 4700 mg/kg; Details of toxic effects not reported other than lethal dose value. (RTECS)
Inhalation Effects:	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)

Talc, Magnesium silicate hydrate

Carcinogenicity:	IARC: Group 3: Unclassifiable as to carcinogenicity to humans
Titanium dioxide	
Skin Effects:	Skin - Rabbit; Standard Draize : 300 ug/3D; (Intermittent) Mild. (RTECS)
Ingestion Effects:	Ingestion - Rat TDLo: 60 gm/kg; Gastrointestinal - hypermotility, diarrhea Gastrointestinal - other changes. (RTECS)
Carcinogenicity:	IARC: Group 2B: Possibly carcinogenic to humans

Notes

Not all of the toxicological studies for the ingredients contained in this product are displayed. For additional information, please consult the references listed in Section 16 of this MSDS.

[To Top of page](#) 

SECTION 12: ECOLOGICAL INFORMATION

Product No.
2000

Ecotoxicity: No ecotoxicity data was found for the product.
Environmental Fate: No environmental information found for this product.

[To Top of page](#) 

SECTION 13: DISPOSAL CONSIDERATIONS

Product No.
2000

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.

[To Top of page](#) 

SECTION 14: TRANSPORT INFORMATION

Product No.
2000

DOT UN Number: No Data
DOT Hazard Class: No Data

[To Top of page](#) 

SECTION 15: REGULATORY INFORMATION

Product No.
2000

Ethylene Glycol

TSCA 8(b): Inventory Status: Listed
State: Listed in the New Jersey State Right to Know list.
Listed in the Pennsylvania Hazardous Substances list.

Canada DSL: Listed

Nepheline Syenite

TSCA 8(b): Inventory Status: Not listed
Canada DSL: Listed

Non-hazardous ingredients

TSCA 8(b): Inventory Status: Contains calcium carbonate (CAS: 1317-65-3), which is listed in the TSCA inventory.

Talc, Magnesium silicate hydrate

TSCA 8(b): Inventory Status: Listed

State: Listed in the New Jersey State Right to Know list.
Listed in the Pennsylvania Hazardous Subsatnces list.

Canada DSL: Listed


Titanium dioxide

TSCA 8(b): Inventory Status: Listed

State: Listed in the New Jersey State Right to Know list.
Listed in the Pennsylvania Hazardous Subsatnces list.

Canada DSL: Listed

Proposition 65: WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

[To Top of page](#) 

SECTION 16: ADDITIONAL INFORMATION

Product No.
2000

MSDS Revision Date: "06/26/2006"

MSDS Author: Actio Corporation

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 materials designated. Refer to individual product safety Data sheets when using more than one product in combination with another.

References:

1. OSHA Hazard Communication Standard, 1910.1200 and Z Tables.
2. NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) and Pocket Guide to Chemical Hazards.
3. Sax Dangerous Properties of Industrial Materials. Tenth Edition.
4. Hawleys Condensed Chemical Dictionary, Thirteenth Edition
5. IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, WHO International Research on Cancer, 2004.
6. Industrial Hygiene and Toxicology, by F.A. Patty.
7. National Library of Medicine, Department of Health and Human Services, Hazardous Substances Data Bank (HSDB).
8. National Toxicology Program (NTP) Tenth Report on Carcinogens, 2002.
9. Brethericks Reactive Chemical Hazards Database. Version 2.
10. Gassarett and Doulls Toxicology, The Basic Science of Poisons.
11. The Merck Index: An Encyclopedia of Chemicals and Drugs. Merck and Company. Twelfth Edition 1998.
12. Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environmental and Biological Exposure Indices. TLV Booklet, 2003.

Copyright© 1996-2006 [Actio Software Corporation](#). All Rights Reserved.

The trademarks, service marks, graphics and logos used on this MSDS are registered or unregistered trademarks of MasterChem Corporation. All Rights Reserved.

[To Top of page](#)

SECTION 1 : IDENTIFICATION

Product Name: **KILZ® Hide-All Interior Primer - No. 5200**
 Product Code: 5200
 SDS Manufacturer Number: 5200
 Manufacturer Name: Masterchem Industries LLC
 Address: 3135 Old Highway M
 Imperial, MO 63052-2834
 General Phone Number: (636) 942-2510
 General Fax Number: (636) 942-3663
 Customer Service Phone Number: (800) 325-3552
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300
 Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)
 SDS Creation Date: March 12, 2014
 SDS Revision Date: February 29, 2016
 (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 irritation.
Causes 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.
Clay (kaolin)	1332-58-7	5 - 10 by weight	
Limestone	1317-65-3	10 - 30 by weight	
Titanium dioxide	13463-67-7	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:	



Clay (kaolin) :

Guideline ACGIH:

TLV-TWA: 2 mg/m³ (E,R)

Guideline OSHA:	PEL-TWA: 5 mg/m ³ Respirable fraction (R)
	PEL-TWA: 15 mg/m ³ Total particulate/dust (T)
<u>Titanium dioxide</u> :	
Guideline ACGIH:	TLV-TWA: 10 mg/m ³

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:	10.56
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: 2 gm/L(Includes Water) Coating VOC.:6 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.
<u>Titanium dioxide</u> :	
Chronic Effects:	Causes damage to organs through prolonged or repeated exposure to particulates or powder. Normal application procedures for this product pose no hazard as to the release of respirable titanium dioxide dust.
Carcinogenicity:	IARC: Group 2B: Possibly carcinogenic to humans. Based on Inhalation studies in rats exposed to fine or ultrafine particles (dust) of titanium dioxide.

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

Clay (kaolin) :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Limestone :

TSCA Inventory Status:	Listed
------------------------	--------

Titanium dioxide :

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:	March 12, 2014
SDS Revision Date:	February 29, 2016
SDS Format:	
SDS Author:	Actio Corporation

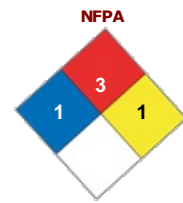
Disclaimer: This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this 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.

Trademark: The trademarks, service marks, graphics and logos used on this MSDS are registered or unregistered trademarks of BEHR Process Corporation. All Rights Reserved.

Copyright© 1996-2015 Actio Corporation. All Rights Reserved.

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: KILZ® Original
MSDS Manufacturer Number: 1000
Manufacturer Name: Masterchem Industries LLC
Address: 3135 Old Highway M
Imperial, MO 63052-2834
General Phone Number: (636) 942-2510
General Fax Number: (636) 942-3663
Customer Service Phone Number: (800) 325-3552
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 27, 2010
MSDS Format: According to ANSI Z400.1-2004



HMIS	
Health Hazard	1
Fire Hazard	3
Reactivity	1
Personal Protection	x

* Chronic Health Effects

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Titanium dioxide	13463-67-7	5 - 10 by weight
Talc, Magnesium silicate hydrate	14807-96-6	1 - 5 by weight
Nepheline Syenite	37244-96-5	1 - 5 by weight
Limestone	Not applicable	5 - 10 by weight
Rutile	1317-80-2	5 - 10 by weight
Octanes, all isomers	No data	1 - 5 by weight
Nonanes	No data	5 - 10 by weight
Silicate, mica	12001-26-2	10 - 30 by weight
Undisclosed/Proprietary	No data	10 - 30 by weight
Distillates (petroleum), hydrotreated light; Kerosine - unspecified	64742-47-8	10 - 30 by weight
Aliphatic Hydrocarbon	64742-49-0	10 - 30 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:	75°F (23.9°C)
Flash Point Method:	SETA
Lower Flammable/Explosive Limit:	0.8
Upper Flammable/Explosive Limit:	8.9
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:	3
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.

Titanium dioxide :

Guideline ACGIH:	TLV-TWA: 10 mg/m3
Guideline OSHA:	OSHA-TWA: 15 mg/m3

Talc, Magnesium silicate hydrate :

Guideline ACGIH:	TLV-TWA: 2 mg/m3 (Respirable)
Guideline OSHA:	OSHA-TWA: 20 mg/m3

Silicate, mica :

Guideline ACGIH: TLV-TWA : 3 mg/m3 (Respirable)

Guideline OSHA: OSHA-TWA: 20 mg/m3

Distillates (petroleum), hydrotreated light; Kerosine - unspecified :

Guideline ACGIH: TLV-TWA : 200 mg/m3 (Negligible aerosol exposures)

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: 75°F (23.9°C)
Flash Point Method: SETA
VOC Content: Material VOC: 443 gm/l (Includes Water)
Coating VOC.: 443 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 32 deg. F.
Incompatible Materials: Oxidizing agents. Strong acids and alkalis.

SECTION 11 - TOXICOLOGICAL INFORMATION**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)

Talc, Magnesium silicate hydrate :

RTECS Number: WW2710000
Skin: Administration onto the skin - Human Standard Draize Test.: 300 ug/3D
(intermittent) (RTECS)

Rutile :

RTECS Number: VM2940000

Silicate, mica :

RTECS Number: VV8760000

Distillates (petroleum), hydrotreated light; Kerosine - unspecified :

RTECS Number: OA5504000

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.
Important Disposal Information: DANGER! Rags, steel wool and waste soaked with this product may spontaneously catch fire if improperly discarded or stored. To avoid a spontaneous combustion fire, immediately after use, place rags, steel wool or waste in a sealed, water-filled, metal container. Do not store unused product inside the home. For disposal guidance, contact your household refuse collection service, fire department, county or state government environmental control agency.

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name: Paint.
DOT UN Number: UN1263
DOT Hazard Class: 3
DOT Packing Group: III
DOT Exemption: Consumer Commodity, ORM-D for container less than 1.3 gallons or 5 liters

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

Talc, Magnesium silicate hydrate :

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

Rutile :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed

Silicate, mica :

TSCA Inventory Status:	Not listed
State Regulations:	Listed in the New Jersey State Right to Know List. Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed

Distillates (petroleum), hydrotreated light; Kerosine - unspecified :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Aliphatic Hydrocarbon :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

SECTION 16 - ADDITIONAL INFORMATION

HMIS Health Hazard:	1
HMIS Fire Hazard:	3
HMIS Reactivity:	1
HMIS Personal Protection:	x
MSDS Creation Date:	June 26, 2006
MSDS Revision Date:	April 27, 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.
Trademark:	The trademarks, service marks, graphics and logos used on this MSDS are registered or unregistered trademarks of BEHR Process Corporation. All Rights Reserved.

Copyright© 1996-2010 [Actio Software Corporation](#). All Rights Reserved.

SECTION 1 : IDENTIFICATION

Product Name: KILZ® Upshot Primer Sealer - Aerosol
Product Code: 10007
SDS Manufacturer Number: 10007
Manufacturer Name: Masterchem Industries LLC
Address: 3135 Old Highway M
 Imperial, MO 63052-2834
General Phone Number: (636) 942-2510
General Fax Number: (636) 942-3663
Customer Service Phone Number: (800) 325-3552
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: Danger.

GHS Class: Flammable Aerosol
 Aspiration Hazard, Category 1.
 Eye Irritant, Category 2.
 Specific Target Organ Toxicity, Single Exposure, Category 3.
 Acute Inhalation Toxicity, Category 4

Hazard Statements: Extremely flammable aerosol.
 May be fatal if swallowed and enters airways.
 Causes serious eye irritation.
 Harmful if inhaled.
 May cause respiratory irritation, drowsiness or dizziness.

Precautionary Statements: **DO NOT** use this product unless you can achieve cross-ventilation by opening windows and doors during application and drying or use the product outdoors.
 Do not spray on an open flame or other ignition source.
 Extinguish all flames and pilot lights and turn off stoves, heaters, electric motors, high intensity lights and other sources of ignition during use and until all vapors are gone.
 Pressurized container: Do not pierce or burn, even after use.
 Wear protective clothing, gloves, eye, and face protection.
 Do not breathe vapors or spray mist.
 Do not eat, drink or smoke when using this product.
 Wash hands thoroughly after handling.
 Take off contaminated clothing and wash it before reuse.
 Do not expose to temperatures exceeding 50°C/122°F.
 Store locked up in a cool, well-ventilated place, protected from sunlight.
 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 or hair: Wash with plenty of soap and water. Wear protective gloves and eye protection.
If inhaled: Leave the area if you experience headaches, drowsiness or dizziness to obtain fresh air and keep at rest in a position comfortable for breathing. If difficulty continues, get medical attention immediately.
If swallowed: Do not induce vomiting and get medical attention immediately.

Emergency Overview: DANGER! Flammable. Harmful if swallowed. Aspiration may occur during swallowing or vomiting, resulting in lung damage. Harmful if inhaled. Inhalation of vapors may cause drowsiness and dizziness. Irritant.

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

Eye: Causes severe eye irritation and possible injury.

Skin: Causes skin irritation.

Inhalation: Harmful if inhaled. Inhalation of vapors may cause drowsiness and dizziness. Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: Harmful if swallowed. Ingestion can cause nausea, vomiting, diarrhea and gastrointestinal irritation. Aspiration of petroleum distillates into the lungs can cause severe chemical pneumonitis that can be fatal.

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 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Titanium dioxide	13463-67-7	5 - 10 by weight	
Talc, Magnesium silicate hydrate	14807-96-6	1 - 5 by weight	
Aliphatic Hydrocarbon	64742-49-0	5 - 10 by weight	
Rutile	1317-80-2	1 - 5 by weight	
Silicate, mica	12001-26-2	5 - 10 by weight	
Acetone	67-64-1	10 - 30 by weight	
n-butane	106-97-8	5 - 10 by weight	
Propane	74-98-6	10 - 30 by weight	
Isobutane	75-28-5	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.

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: -156°F (-104°C)

Flash Point Method: None.

Auto Ignition Temperature: Not applicable.

Lower Flammable/Explosive Limit: 0.8% by volume

Upper Flammable/Explosive Limit: 12.8% by volume

Fire Fighting Instructions: Flammable. Cool fire-exposed containers using water spray.

Extinguishing Media: Use dry chemical, carbon dioxide to extinguish small fires. Use water for large fires.

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:	4
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: Place leaking cans in a container such as an open pail or plastic bag if safe to do so and let the the gas and pressure dissipate. Contain spills with an inert absorbent material such as soil or sand. Prevent from spreading by covering, diking or other means. Provide ventilation. Eliminate all ignition sources including those beyond the immediate spill area if safe to do so.

Methods for cleanup: Clean up spills immediately observing precautions in the protective equipment section. Collect spill with

a non-sparking tool. Place into a suitable container for disposal. Take precautionary measures against static discharges. After removal, flush spill area with soap and water to remove trace residue.

SECTION 7 : HANDLING and STORAGE

Handling:	DO NOT use this product unless you can achieve cross-ventilation by opening windows and doors during application and drying or use the product outdoors. 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

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:	



Titanium dioxide :

Guideline ACGIH:	TLV-TWA: 10 mg/m ³
Guideline OSHA:	OSHA-TWA: 15 mg/m ³

Talc, Magnesium silicate hydrate :

Guideline ACGIH:	TLV-TWA: 2 mg/m ³ (Respirable)
Guideline OSHA:	OSHA-TWA: 20 mg/m ³

Silicate, mica :

Guideline ACGIH:	TLV-TWA: 3 mg/m ³ (Respirable)
Guideline OSHA:	OSHA-TWA: 20 mg/m ³

Acetone :

Guideline ACGIH:	TLV-TWA: 500 ppm TLV-STEL: 750 ppm
Guideline OSHA:	OSHA-TWA: 1000 ppm

n-butane :

Guideline ACGIH:	TLV-TWA: 1000 ppm
------------------	-------------------

Propane :

Guideline ACGIH:	TLV-TWA: 1000 ppm
Guideline OSHA:	OSHA-TWA: 1000 ppm

Isobutane :

Guideline ACGIH:	TLV-TWA: 1000 ppm
------------------	-------------------

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State:	Aerosol.
Color:	White
Odor:	Solvent.
Odor Threshold:	Not applicable.
Boiling Point:	>99°F (>37°C)
Melting Point:	Not applicable.
Density:	7.0 - 8.0
Solubility:	Not applicable.
Vapor Density:	Not applicable.
Vapor Pressure:	Not applicable.
Evaporation Rate:	Not applicable.

pH:	Not applicable.
Viscosity:	Not applicable.
Coefficient of Water/Oil Distribution:	Not applicable.
Flammability:	Water thin
Flash Point:	-156°F (-104°C)
Flash Point Method:	None.
Auto Ignition Temperature:	Not applicable.
VOC Content:	Not applicable.

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

Titanium dioxide :

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)
Carcinogenicity:	IARC: Group 2B: Possibly carcinogenic to humans.

Talc, Magnesium silicate hydrate :

Carcinogenicity:	IARC: Group 3: Unclassifiable as to carcinogenicity to humans.
------------------	--

Acetone :

Eye:	Eye - Rabbit; Standard Draize test. : 10 uL - mild (RTECS)
Skin:	Skin - Guinea pig; LD50: >9400 uL/kg - Details of toxic effects not reported other than lethal dose value. (RTECS)
Inhalation:	Inhalation - Rat LC50: 50100 mg/m ³ /8H - [Details of toxic effects not reported other than lethal dose value Inhalation - Mouse LC50: 44 gm/m ³ /4H - Details of toxic effects not reported other than lethal dose value. (RTECS)
Ingestion:	Ingestion - Rat LD50: 5800 mg/kg - Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Tremor Ingestion - Mouse LD50: 3 gm/kg - [Details of toxic effects not reported other than lethal dose value. (RTECS)

n-butane :

Inhalation:	Ingestion - Rat LC50: 658000 mg/m ³ /4H - [Details of toxic effects not reported other than lethal dose value] (RTECS)
-------------	---

Isobutane :

Inhalation:	Inhalation - Rat LC50: 570,000 ppm/15M - [Behavioral - Tremor Behavioral - Convulsions or effect on seizure threshold Lungs, Thorax, or Respiration - Respiratory depression] (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.
-----------------	---

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Aerosols, flammable.
DOT UN Number:	1950

DOT Hazard Class:	2.1
DOT Packing Group:	Not applicable.
DOT Exemption:	Not applicable.
IATA Shipping Name:	Aerosol. Flammable.
IATA UN Number:	1950
IATA Hazard Class:	2.1
IATA Packing Group:	Not applicable.
Canadian Shipping Name:	Aerosol.
Canadian UN Number:	1950
Canadian Hazard Class:	2.1
Canadian Packing Group:	Not applicable.
IMDG UN Number :	1950
IMDG Shipping Name :	Aerosol.
IMDG Hazard Class :	2.1
IMDG Packing Group :	Not applicable.
Marine Pollutant:	Not applicable.
ADR UN Number:	1950
ADR Shipping Name :	Aerosol.
ADR Hazard Class:	2
ADR Packing Group :	Not applicable.

SECTION 15 : REGULATORY INFORMATION

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

Talc, Magnesium silicate hydrate :

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

Aliphatic Hydrocarbon :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Rutile :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed

Silicate, mica :

TSCA Inventory Status:	Not listed
State Regulations:	Listed in the New Jersey State Right to Know List. Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed

Acetone :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the Pennsylvania State Hazardous Substances List.
Canada DSL:	Listed

n-butane :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the Pennsylvania State Hazardous Substances List. Listed in the New Jersey State Right to Know List.
Canada DSL:	Listed

Propane :

TSCA Inventory Status:	Listed
State Regulations:	Listed in the Pennsylvania State Hazardous Substances List. Listed in the New Jersey State Right to Know List.

Canada DSL:	Listed
<u>Isobutane :</u>	
TSCA Inventory Status:	Listed
State Regulations:	Listed in the Pennsylvania State Hazardous Substances List. Listed in the New Jersey State Right to Know List..
Canada DSL:	Listed

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard:	1
HMIS Fire Hazard:	3
HMIS Reactivity:	1
HMIS Personal Protection:	X

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.

Trademark: The trademarks, service marks, graphics and logos used on this MSDS are registered or unregistered trademarks of BEHR Process Corporation. All Rights Reserved.

Copyright© 1996-2015 Actio Corporation. All Rights Reserved.

**The Kingsford Products Company**

1221 Broadway
Oakland, CA 94612
Tel. (510) 271-7000

Material Safety Data Sheet

I Product:	KINGSFORD® ODORLESS CHARCOAL LIGHTER	
Description:	ALIPHATIC PETROLEUM SOLVENT	
Other Designations	Manufacturer	Emergency Telephone Nos.
	The Kingsford Manufacturing Company 1221 Broadway Oakland, CA 94612	For Medical Emergencies call: (800) 446-1014 For Transportation Emergencies Chemtrac (800) 424-9300

II Health Hazard Data	III Hazardous Ingredients												
<p>Vapors may cause irritation to the nose, throat, and respiratory tract. Repeated or prolonged exposure to concentrations above the Worker Exposure Limit may cause central nervous system depression (e.g. dizziness, weakness, nausea, headaches and/or unconsciousness). Small amounts of liquid aspirated into lungs can cause chemical pneumonitis which can be fatal. Liquid may be irritating to eyes and skin. Solvents similar to this product have caused adverse kidney effects in male rats after prolonged and repeated inhalation exposure. Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous system damage. Preexisting eye, skin, and respiratory disorders may be aggravated by exposure to this product.</p> <p>FIRST AID: INGESTION: DO NOT INDUCE VOMITING. Call a physician immediately. INHALATION: Remove from exposure. If irritation or breathing problems persist, call a physician. EYE CONTACT: Flush eyes thoroughly with water for at least 15 minutes; then call a physician. SKIN CONTACT: Wash skin with soap and water. If irritation occurs, call a physician.</p>	<table><tr><th><u>Ingredient</u></th><th><u>Concentration</u></th><th><u>Worker Exposure Limit</u></th></tr><tr><td>Aliphatic petroleum solvent</td><td>100%</td><td>100 ppm - TLV-TWA^{a,b}</td></tr><tr><td>CAS # 8052-41-3</td><td></td><td>500 ppm - PEL-TWA^{b,c}</td></tr><tr><td>CAS # 64742-88-7</td><td></td><td>50 ppm - TLV-TWA^d</td></tr></table> <p>^aTLV-TWA = ACGIH Threshold Limit Value-Time Weighted Average.</p> <p>^bBased on the ACGIH TLV-TWA for Stoddard solvent.</p> <p>^cPEL-TWA = OSHA Permissible Exposure Limit-Time Weighted Average.</p> <p>^dClorox observes a 50 ppm exposure limit in its facilities.</p> <p>This material is not on the IARC, OSHA, or NTP carcinogen lists.</p>	<u>Ingredient</u>	<u>Concentration</u>	<u>Worker Exposure Limit</u>	Aliphatic petroleum solvent	100%	100 ppm - TLV-TWA ^{a,b}	CAS # 8052-41-3		500 ppm - PEL-TWA ^{b,c}	CAS # 64742-88-7		50 ppm - TLV-TWA ^d
<u>Ingredient</u>	<u>Concentration</u>	<u>Worker Exposure Limit</u>											
Aliphatic petroleum solvent	100%	100 ppm - TLV-TWA ^{a,b}											
CAS # 8052-41-3		500 ppm - PEL-TWA ^{b,c}											
CAS # 64742-88-7		50 ppm - TLV-TWA ^d											

IV Special Protection and Precautions	V Transportation and Regulatory Data
Hygienic Practices: Wash hands with soap and water after direct contact. Do not wear product-contaminated clothing for prolonged periods. Engineering Controls: Use local or general ventilation to minimize exposure to vapors. Personal Protective Equipment: Wear safety glasses or goggles. Wear chemical-resistant (e.g. nitrile) gloves if handling product for prolonged or repeated periods. Use a NIOSH-approved respirator if exposure may exceed occupational exposure limits. Keep container closed when not in use. Store away from open flames, sparks, heat sources, direct sunlight, strong oxidants, and corrosives. Do not smoke while using this product.	DOT: Not restricted. IMO Proper Shipping Name: Dangerous goods in limited quantities of Class 3.3, PGIII. IATA Proper Shipping Name: Petroleum distillates, N.O.S., Class 3, UN 1268, PGIII. TSCA Status: This material is on the TSCA inventory. SCAQMD Status: Approved - reference number C13. EPA - SARA Title III/CERCLA: Packaged product is not reportable under Sections 311/312. This product contains no chemicals regulated under Section 313 or under Section 304/CERCLA.

VI Spill Procedures/Waste Disposal	VII Reactivity Data
Spill Procedures: CAUTION - COMBUSTIBLE. Eliminate potential sources of ignition. Absorb and containerize. Do not wash down sanitary sewer. Waste Disposal: Dispose of in accordance with all applicable federal, state, and local regulations.	Stable under normal use and storage conditions. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, and sodium or calcium hypochlorite.

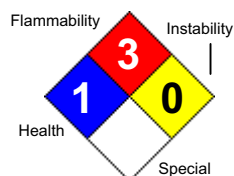
VIII Fire and Explosion Data	IX Physical Data
Flash Point: ~105°F (closed cup) Flammable limits (% by volume in air): 1% - 7% Fire Extinguishing Agents: Foam, water fog, dry chemical, or carbon dioxide (CO ₂). Do not use a direct stream of water. NFPA Class II Combustible Liquid.	Boiling range ~315 - 350°F Specific gravity (@ 15°C) ~0.78 Vapor pressure (@ 20°C) ~3 mm Hg Vapor density (air = 1) ~4.7 Solubility in water Negligible

MATERIAL SAFETY DATA SHEET

Klean Strip Green Denatured Alcohol

Page: 1

HEALTH	1
FLAMMABILITY	3
PHYSICAL HAZ.	0
PPE	G



Printed: 06/17/2008
Revision: 06/13/2008
Supersedes Revision: 06/06/2008
Date Created: 06/04/2008

1. Product and Company Identification

Product Code: 1623
Product Name: Klean Strip Green Denatured Alcohol **Rockler SKU:** 23942
Manufacturer Information
Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113
Phone Number: (901)775-0100
Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892
Web site address: www.wmbarr.com
Preparer Name: W.M. Barr EHS Department (901)775-0100
Synonyms
GKGA75002, QKGA75003

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TWA	Other Limits
1. Ethyl alcohol {Ethanol}	64-17-5	90.0 -100.0 %	1000 ppm	1000 ppm	No data.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	<10.0 %	200 ppm	200 ppm	No data.
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	<10.0 %	100 ppm	50 ppm	No data.
4. Acetic acid, Ethyl ester {Ethyl acetate}	141-78-6	< 5.0 %	400 ppm	400 ppm	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Ethyl alcohol {Ethanol}	KQ6300000	No data.	No data.	No data.	No data.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	PC1400000	No data.	No data.	250 ppm	No data.
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	SA9275000	No data.	No data.	75 ppm	No data.
4. Acetic acid, Ethyl ester {Ethyl acetate}	AH5425000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

Danger! Poison. May be fatal or cause blindness if swallowed. Vapor Harmful. Flammable. Eye Irritant.

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

Health Hazards (Acute and Chronic)

Inhalation Acute Exposure Effects:

Vapor harmful. May cause dizziness, headache, watering of eyes, irritation of respiratory tract, irritation to the eyes, drowsiness, nausea, other central nervous system effects, spotted vision, dilation of pupils, and convulsions.

Skin Contact Acute Exposure Effects:

May cause irritation, drying of skin, redness, and dermatitis. May cause symptoms listed under inhalation. May be absorbed through damaged skin.

RTD20000423AA

MATERIAL SAFETY DATA SHEET

Klean Strip Green Denatured Alcohol

Page: 2

Printed: 06/17/2008

Revision: 06/13/2008

Supersedes Revision: 06/06/2008

Eye Contact Acute Exposure Effects:

May cause irritation.

Ingestion Acute Exposure Effects:

Poison. Cannot be made non-poisonous. May be fatal or cause blindness. May produce fluid in the lungs and pulmonary edema. May cause dizziness, headache, nausea, drowsiness, loss of coordination, stupor, reddening of face and or neck, liver, kidney and heart damage, coma, and death. May produce symptoms listed under inhalation. Prolonged ingestion may cause liver damage, "fetal-alcohol syndrome" in pregnant females and neuronal degeneration. Aspiration into lungs while vomiting, may result in severe pulmonary injury.

Chronic Exposure Effects:

May cause symptoms listed under inhalation, dizziness, fatigue, tremors, permanent central nervous system changes, blindness, pancreatic damage, and death.

Signs and Symptoms Of Exposure

See Potential Health Effects.

Medical Conditions Generally Aggravated By Exposure

Diseases of the liver.

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation:

If user experiences breathing difficulty, move to air free of vapors. Administer oxygen or artificial respiration until medical assistance can be rendered.

Skin Contact:

Wash with soap and water while removing contaminated clothing. If symptoms persist seek medical advice.

Eye Contact:

Flush with large quantities of water for at least 15 minutes. Get medical attention.

Ingestion:

Call your poison control center, hospital emergency room or physician immediately for instructions to induce vomiting.

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Note to Physician

Poison. This product contains methanol. Methanol is metabolized to formaldehyde and formic acid. These metabolites may cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used as an antidote. Methanol is effectively removed by hemodialysis. Call your local poison control center for further instructions.

5. Fire Fighting Measures

Flammability Classification:

OSHA Class IB

Flash Pt:

57.00 F Method Used: Unknown

Explosive Limits:

LEL: 4 % UEL: 20%

Autoignition Pt:

752.00 F

Special Fire Fighting Procedures

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined area. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

MATERIAL SAFETY DATA SHEET

Klean Strip Green Denatured Alcohol

Page: 3

Printed: 06/17/2008

Revision: 06/13/2008

Supersedes Revision: 06/06/2008

Unusual Fire and Explosion Hazards

Flashback of vapors possible over considerable distance.

Hazardous Combustion Products

Carbon monoxide and carbon dioxide.

Extinguishing Media

Use carbon dioxide, dry powder, alcohol-resistant foam, or water spray.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Clean-up:

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources, keep flares, smoking or flames out of hazard area.

Small spills:

Take up liquid with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills:

Dike far ahead of spill for later disposal.

Do not flush into surface water or sanitary sewer system.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations.

Do not reuse this container.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.

Eye Protection

Safety glasses, chemical goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves

Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

Other Protective Clothing

Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

MATERIAL SAFETY DATA SHEET

Klean Strip Green Denatured Alcohol

Page: 4

Printed: 06/17/2008

Revision: 06/13/2008

Supersedes Revision: 06/06/2008

Ventilation

Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering -- Stop -- ventilation is inadequate. Leave area immediately.

Work/Hygienic/Maintenance Practices

A source of clean water should be available in the work area for flushing eyes and skin.

Do not eat, drink, or smoke in the work area.

Wash hands thoroughly after use.

Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use.

Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

9. Physical and Chemical Properties

Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Melting Point:	-173.00 F
Boiling Point:	165.20 F - 176.00 F
Autoignition Pt:	752.00 F
Flash Pt:	57.00 F Method Used: Unknown
Explosive Limits:	LEL: 4 % UEL: 20%
Specific Gravity:	0.7968 - 0.8118
Bulk density:	6.75 LB/GA
Vapor Pressure:	~ 50 MM HG at 20.0 C
Vapor Density:	~ 1.5
Evaporation Rate:	~ 2
Solubility in Water:	No data.
Solubility Notes	
	Completely soluble in water.
Percent Volatile:	100.0 % by weight.
VOC / Volume:	789.0000 G/L
Corrosion Rate:	No data.
pH:	No data.

Appearance and Odor

Clear, water white, thin liquid

10. Stability and Reactivity

Stability: Unstable ☐ Stable ☒

Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Incompatible with strong oxidizing agents, inorganic acids, and halogens.

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide, carbon dioxide, and possibly other unidentified organic compounds.

Hazardous Polymerization: Will occur ☐ Will not occur ☒

Conditions To Avoid - Hazardous Polymerization

No data available.

MATERIAL SAFETY DATA SHEET

Klean Strip Green Denatured Alcohol

Page: 5
Printed: 06/17/2008
Revision: 06/13/2008
Supercedes Revision: 06/06/2008

11. Toxicological Information

No data available.

Carcinogenicity/Other Information

No data available.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Ethyl alcohol {Ethanol}	64-17-5	n.a.	n.a.	A4	n.a.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	n.a.	n.a.	n.a.	n.a.
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	n.a.	n.a.	n.a.	n.a.
4. Acetic acid, Ethyl ester {Ethyl acetate}	141-78-6	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

Do not flush into surface water or sanitary sewer system.

Low potential to affect aquatic organisms and secondary waste treatment organisms.

Readily biodegradable.

Not likely to bioconcentrate.

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with applicable local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name

GKGA75002:
UN1170, Ethyl Alcohol, 3, PGII

GKGA75003:
UN1170, Ethyle Alcohol, 3, PGII, LTD. QTY.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Ethyl alcohol {Ethanol}	64-17-5	No	No	No	No
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	No	Yes 5000 LB	Yes	No
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	No	Yes 5000 LB	Yes	Yes
4. Acetic acid, Ethyl ester {Ethyl acetate}	141-78-6	No	Yes 5000 LB	No	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

Sec.304: EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

Sec.313: EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

MATERIAL SAFETY DATA SHEET

Klean Strip Green Denatured Alcohol

Page: 6

Printed: 06/17/2008

Revision: 06/13/2008

Supercedes Revision: 06/06/2008

☒ Yes ☐ No Acute (immediate) Health Hazard
☒ Yes ☐ No Chronic (delayed) Health Hazard
☒ Yes ☐ No Fire Hazard
☐ Yes ☒ No Sudden Release of Pressure Hazard
☐ Yes ☒ No Reactive Hazard

16. Other Information

Company Policy or 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.

Klean-Strip Acetone

Printed: 09/18/2014

Revision: 09/05/2014

Supersedes Revision: 05/10/2012

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Klean-Strip Acetone
Company Name: W. M. Barr
 2105 Channel Avenue
 Memphis, TN 38113
Phone Number: (901)775-0100
Web site address: www.wmbarr.com
Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892
Intended Use: Paint, stain, and varnish thinning.
Synonyms: CAC18, DAC18, GAC18, GAC182, QAC18, QAC18KM, QAC184, PA12270

2. HAZARDS IDENTIFICATION

Flammable Liquids, Category 2

Serious Eye Damage/Eye Irritation, Category 2

Target Organ Systemic Toxicity (single exposure), Category 3

**GHS Signal Word:** Danger

GHS Hazard Phrases: H225: Highly flammable liquid and vapor.
 H319: Causes serious eye irritation.
 H335: May cause respiratory irritation.

GHS Precaution Phrases: P233: Keep container tightly closed.
 P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P240: Ground/bond container and receiving equipment.
 P241: Use explosion-proof electrical/ventilating/lighting equipment.
 P243: Take precautionary measures against static discharge.
 P242: Use only non-sparking tools.
 P264: Wash hands thoroughly after handling.
 P261: Avoid breathing gas/mist/vapours/spray.
 P271: Use only outdoors or in a well-ventilated area.

GHS Response Phrases: P370+378: In case of fire, use dry chemical to extinguish.
 P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+313: If eye irritation persists, get medical advice/attention.
 P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P312: Call a POISON CENTER/doctor if you feel unwell.

GHS Storage and Disposal Phrases: P403+235: Store in cool/well-ventilated place.
 P501: Dispose of contents/container according to local, state and federal regulations.
 P403+233: Store container tightly closed in well-ventilated place - if product is as volatile as to generate hazardous atmosphere.
 P405: Store locked up.

SAFETY DATA SHEET

Klean-Strip Acetone

Page: 2

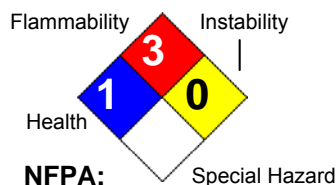
Printed: 09/18/2014

Revision: 09/05/2014

Supersedes Revision: 05/10/2012

Hazard Rating System:

HEALTH	*	2
FLAMMABILITY		3
PHYSICAL		0
PPE	X	

**HMIS:****OSHA Regulatory Status:**

This material is classified as hazardous under OSHA regulations.

Potential Health Effects**(Acute and Chronic):****Inhalation Acute Exposure Effects:**

Vapor harmful. May cause dizziness, headache, watering of eyes, irritation of respiratory tract, drowsiness, nausea, and numbness in fingers, arms and legs. Inhalation of high vapor concentrations can cause central nervous system depression and narcosis. May lead to unconsciousness.

Skin Contact Acute Exposure Effects:

May cause skin irritation. Liquid is absorbed readily and can transport other toxins into the body. Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

Eye Contact Acute Exposure Effects:

This material is an eye irritant. Causes itching, burning, redness and tearing. May cause corneal injury.

Ingestion Acute Exposure Effects:

Harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage. May cause irritation of the gastrointestinal tract. May cause systemic poisoning with symptoms paralleling those of inhalation.

Chronic Exposure Effects:

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. May cause weakness, fatigue, skin irritation, and numbness in hands and feet.

May cause target organ or system damage to the respiratory system, nervous system, kidney, blood system, and liver.

Target Organs:

Eyes, skin, respiratory system, central nervous system, heart

Medical Conditions Generally Skin, eye, respiratory and asthma, cardiac irregularities

Aggravated By Exposure:

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
67-64-1	Acetone {2-Propanone}	100.0 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

Skin:

Immediately begin washing the skin thoroughly with large amounts of water and mild soap, if available, while removing contaminated clothing. Seek medical attention if irritation persists.

Eyes:

Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes, then seek immediate medical attention.

Inhalation:

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

Ingestion:

If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.

Signs and Symptoms Of Exposure:

Primary Routes of Exposure:

Inhalation, ingestion, and dermal.

Note to Physician:

Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

Class IB

Flash Pt:

0.00 F Method Used: TAG Closed Cup

Explosive Limits:

LEL: 2.5 % at 77.0 F UEL: 13.0 % at 77.0 F

Autoignition Pt:

869.00 F

Suitable Extinguishing Media: Use carbon dioxide, dry powder, or alcohol-resistant foam.

Fire Fighting Instructions:

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards:

Extremely Flammable! Vapors are heavier than air and may spread along floors. Forms or accumulates static electricity, may cause fire or explosion.

Acetone/water solutions that contain more than 2.5% acetone have flash points. When the acetone concentration is greater than 8% by weight in a closed container, it would be within the flammable range and cause fire or explosion if a source of ignition were introduced.

Do not spread this product over a large surface area because the fire and health safety risks will increase dramatically.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:

Vapors may cause flash fire or ignite explosively.

Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc.

Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms. Vapors can accumulate and explode if ignited.

Do not spread this product over large surface areas because fire and health safety risks will increase dramatically.

Precautions To Be Taken in Storing:

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near any source of heat or flame, furnace areas, pilot lights, stoves, etc. Do not reuse this container. Use product within one year of purchasing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
67-64-1	Acetone {2-Propanone}	PEL: 1000 ppm	TLV: 500 ppm STEL: 750 ppm	No data.

Respiratory Equipment (Specify Type):

For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection:

Splash goggles.

SAFETY DATA SHEET

Klean-Strip Acetone

Page: 5

Printed: 09/18/2014

Revision: 09/05/2014

Supersedes Revision: 05/10/2012

Protective Gloves:	Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile rubber, natural rubber, and neoprene may provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.
Other Protective Clothing:	Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.
Engineering Controls (Ventilation etc.):	<p>Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.</p> <p>Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.</p>
Work/Hygienic/Maintenance Practices:	<p>Wash hands thoroughly after use and before eating, drinking, smoking, or using the restroom.</p> <p>Do not eat, drink, or smoke in the work area.</p> <p>Discard any clothing or other protective equipment that cannot be decontaminated.</p> <p>Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.</p>

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[] Gas [X] Liquid [] Solid
Appearance and Odor:	Clear colorless liquid with a characteristic ketone odor. Odor may be described as a sweet pungent odor.
Melting Point:	No data.
Boiling Point:	> 133.00 F
Autoignition Pt:	869.00 F
Flash Pt:	0.00 F Method Used: TAG Closed Cup
Explosive Limits:	LEL: 2.5 % at 77.0 F UEL: 13.0 % at 77.0 F
Specific Gravity (Water = 1):	0.789
Density:	6.572 LB/GA at 77.0 F
Vapor Pressure (vs. Air or mm Hg):	213 MM HG at 77.0 F
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	Complete

SAFETY DATA SHEET

Klean-Strip Acetone

Page: 6

Printed: 09/18/2014

Revision: 09/05/2014

Supersedes Revision: 05/10/2012

Percent Volatile: 100.0 % by weight.

10. STABILITY AND REACTIVITY

Stability: Unstable [] Stable [X]

Conditions To Avoid - No data available.

Instability:

Incompatibility - Materials To Avoid: Avoid contact with acids, aldehydes, alkalies, amines, ammonia, oxidizing agents, reducing agents, chlorine compounds.

May form explosive mixtures with chromic anhydride, chromyl alcohol, hexachloromelamine, hydrogen peroxide, permonosulfuric acid, potassium tertbutoxide, and thioglycol. Strong oxidizers.

Hazardous Decomposition Or Byproducts: Decomposition may produce carbon monoxide, carbon dioxide, and other asphyxiants.

Possibility of Hazardous Reactions: Will occur [] Will not occur [X]

Conditions To Avoid - No data available.

Hazardous Reactions:

11. TOXICOLOGICAL INFORMATION

Toxicological Information: NEUROTOXICITY: Clinical studies and case reports suggest slight neurological effects, mostly of the subjective type, in individuals exposed to varying concentrations of acetone. In most studies the subjects report discomfort, irritation of the eyes and respiratory passages, mood swings, and nausea following exposure to acetone vapor at concentrations of 500 ppm or higher. The fact that the effects subside following termination of exposure indicates that acetone may be the active compound, rather than a metabolite. Case reports of accidental poisoning also indicate that the effects (e.g., lethargy and drowsiness) are short-lived.

Carcinogenicity/Other Information: CAS# 67-64-1:
Standard Draize Test, Eyes, Species: Rabbit, 20.00 MG, Severe.
Result:
Behavioral: Change in motor activity (specific assay).
Behavioral: Alteration of classical conditioning.
- American Journal of Ophthalmology., Ophthalmic Pub. Co., 435 N. Michigan Ave., Suite 1415, Chicago, IL 60611, Vol/p/yr: 29,1363, 1946
ACGIH A4 - Not Classifiable as a Human Carcinogen.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
67-64-1	Acetone {2-Propanone}	n.a.	n.a.	A4	n.a.

12. ECOLOGICAL INFORMATION

No data available.

SAFETY DATA SHEET

Klean-Strip Acetone

Page: 7

Printed: 09/18/2014

Revision: 09/05/2014

Supersedes Revision: 05/10/2012

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of in accordance with all applicable local, state, and federal regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Acetone

DOT Hazard Class:

3

FLAMMABLE LIQUID

UN/NA Number:

UN1090

Packing Group:

II



Additional Transport Information:

The transportation information listed above is suitable for all modes of transportation. IMO/IMDG, ICAO/IATA, 49 CFR

For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

The shipper/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.

15. REGULATORY INFORMATION

This material meets the EPA [X] Yes [] No Acute (immediate) Health Hazard
'Hazard Categories' defined [X] Yes [] No Chronic (delayed) Health Hazard
for SARA Title III Sections [X] Yes [] No Fire Hazard
311/312 as indicated: [] Yes [X] No Sudden Release of Pressure Hazard
[] Yes [X] No Reactive Hazard

CAS #

67-64-1

Hazardous Components (Chemical Name)

Acetone {2-Propanone}

Other US EPA or State Lists

CAA HAP, ODC: No; CWA NPDES: No; TSCA: Yes -
Inventory, 4 Test; CA PROP.65: No

16. OTHER INFORMATION

Revision Date: 09/05/2014

Preparer Name: W.M. Barr EHS Department (901)775-0100

Additional Information About This Product: No data available.

Company Policy or 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.

MATERIAL SAFETY DATA SHEET

LACQUER THINNER

Page: 1

HEALTH		2
FLAMMABILITY	2	
PHYSICAL HAZ.	1	
PPE	G	



Printed: 12/14/2005
Revision: 06/16/2005
Supersedes Revision: 05/24/2005
Date Created: 05/24/2005

1. Product and Company Identification

Product Code: CLT27
Product Name: LACQUER THINNER
Reference #: 1601.3
Manufacturer Information
Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113
Phone Number: (901)775-0100
Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892
Web site address: www.wmbarr.com

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA TWA	ACGIH TWA	Other Limits
1. Methanol	67-56-1	1.0 -5.0 %	200 ppm	200 ppm	No data.
2. Toluene	108-88-3	70.0 -80.0 %	200 ppm	50 ppm	No data.
3. Acetone	67-64-1	1.0 -5.0 %	1000 ppm	500 ppm	No data.
4. Propylene glycol methyl ether acetate	108-65-6	1.0 -5.0 %	No data.	No data.	No data.
5. Methyl ethyl ketone	78-93-3	5.0 -10.0 %	200 ppm	200 ppm	No data.
6. Isopropyl alcohol	67-63-0	10.0 -15.0 %	400 ppm	200 ppm	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Methanol	PC1400000	No data.	No data.	250 ppm	No data.
2. Toluene	XS5250000	500 ppm/(10min)	300 ppm	No data.	No data.
3. Acetone	AL3150000	No data.	No data.	750 ppm	No data.
4. Propylene glycol methyl ether acetate	AI8925000	No data.	No data.	No data.	No data.
5. Methyl ethyl ketone	EL6475000	No data.	No data.	300 ppm	No data.
6. Isopropyl alcohol	NT8050000	No data.	No data.	400 ppm	No data.

3. Hazards Identification

Emergency Overview

Danger! Extremely flammable. Keep away from heat, sparks, flame and all other sources of ignition. Vapors may cause flash fire or ignite explosively. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and all other sources of ignition during use and until all vapors are gone. Beware of static electricity that may be generated by synthetic clothing and other sources.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Health Hazards (Acute and Chronic)

Inhalation Acute Exposure Effects:

Vapor harmful. May cause dizziness; headache; watering of eyes; irritation of respiratory tract; weakness; drowsiness; nausea; numbness in fingers, arms and legs; depression of central nervous system; loss of appetite; fatigue; hallucinations; light headedness; visual disturbances; giddiness and intoxication; sleepiness; cough and dyspnea; cold, clammy extremities; diarrhea; vomiting; dilation of pupils; spotted vision. Severe overexposure may cause convulsions; unconsciousness; coma; and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

Skin Contact Acute Exposure Effects:

May be absorbed through the skin. May cause irritation; numbness in the fingers and arms; drying of skin; and

MATERIAL SAFETY DATA SHEET

LACQUER THINNER

Page: 2

Printed: 12/14/2005

Revision: 06/16/2005

Supersedes Revision: 05/24/2005

dermatitis. May cause increased severity of symptoms listed under inhalation.

Eye Contact Acute Exposure Effects:

This material is an eye irritant. May cause irritation; burns; conjunctivitis of eyes; and corneal ulcerations of the eye. Vapors may irritate eyes.

Ingestion Acute Exposure Effects:

Poison. Cannot be made non-poisonous. May be fatal or cause blindness. May cause dizziness; headache; nausea; vomiting; burning sensation in mouth, throat, and stomach; loss of coordination; depression of the central nervous system; narcosis; stupor; gastrointestinal irritation; liver, kidney, and heart damage; diarrhea; loss of appetite; coma and death. May produce symptoms listed under inhalation.

Chronic Exposure Effects:

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Prolonged or repeated contact may cause dermatitis. Prolonged skin contact may result in absorption of a harmful amount of this material. May cause conjunctivitis; gastric disturbances; insomnia; dizziness; headache; weakness; fatigue; nausea; heart palpitations; skin irritation; numbness in hands and feet; permanent central nervous system changes; some loss of memory; pancreatic damage; giddiness; visual impairment or blindness; kidney or liver damage; and death. May cause symptoms listed under inhalation.

Signs and Symptoms Of Exposure

Primary Routes of Exposure:

Inhalation, ingestion and dermal.

Medical Conditions Generally Aggravated By Exposure

Diseases of the skin, eyes, liver, kidneys, central nervous system and respiratory system.

OSHA Hazard Classes:

HEALTH HAZARDS : N/E

PHYSICAL HAZARDS : N/E

TARGET ORGANS & EFFECTS: N/E

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation:

If user experiences breathing difficulty, move to air free of vapors, Administer oxygen or artificial medical assistance can be rendered.

Skin Contact:

Wash with soap and large quantities of water and seek medical attention if irritation from contact persists.

Eye Contact:

Flush with large quantities of water for at least 15 minutes and seek immediate medical attention.

Ingestion:

Call your local poison control center, hospital emergency room or physician immediately for instructions to induce vomiting.

Note to Physician

Poison. This product contains methanol. Methanol is metabolized to formaldehyde and formic acid. These metabolites may cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used as an antidote. Methanol is effectively removed by hemodialysis. Call your local poison control center for further information.

MATERIAL SAFETY DATA SHEET

LACQUER THINNER

Page: 3

Printed: 12/14/2005

Revision: 06/16/2005

Supersedes Revision: 05/24/2005

5. Fire Fighting Measures

Flammability Classification: Class IB
Flash Pt: 20.00 F Method Used: TOC
Explosive Limits: LEL: 1.00 UEL: No data.
Autoignition Pt: No data.
Special Fire Fighting Procedures

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Unusual Fire and Explosion Hazards

No data available.

Extinguishing Media

Use carbon dioxide, dry powder, or foam.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Clean up:

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area.

Small spills:

Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills:

Dike far ahead of spill for later disposal.

Waste Disposal:

Dispose in accordance with applicable local, state and federal regulations.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.

MATERIAL SAFETY DATA SHEET

LACQUER THINNER

Page: 4

Printed: 12/14/2005

Revision: 06/16/2005

Supersedes Revision: 05/24/2005

Eye Protection

Safety glasses, goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves

Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

Other Protective Clothing

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. A source of clean water should be available in the work area for flushing eyes and skin. Do not eat, drink, or smoke in the work area. Wash hands thoroughly after use. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

Ventilation

Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering - Stop - ventilation is inadequate. Leave area immediately.

9. Physical and Chemical Properties

Physical States:	[] Gas	[X] Liquid	[] Solid
Melting Point:	No data.		
Boiling Point:	> 133.00 F		
Autoignition Pt:	No data.		
Flash Pt:	20.00 F Method: TOC		
Explosive Limits:	LEL: 1.00	UEL: No data.	
Specific Gravity:	No data.		
Bulk Density:	7.079 LB/GA		
Vapor Presure:	No data.		
Vapor Density:	No data.		
Evaporation Rate:	No data.		
Solubility in Water:	No data.		
Percent Volatile:	100.0 % by weight.		
VOC / Volume:	840.0000 G/L		
Corrosion Rate:	No data.		
pH:	No data.		

Appearance and Odor

No data available.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Incompatible with strong oxidizing agents, reducing agents, acids, bases, amines, aldehydes, ammonia, halogens, nitric acid, and hydrogen peroxide.

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide; carbon dioxide; formaldehyde; and unidentified organic compounds in black smoke.

Hazardous Polymerization: Will occur [] Will not occur [X]

MATERIAL SAFETY DATA SHEET

LACQUER THINNER

Page: 5

Printed: 12/14/2005

Revision: 06/16/2005

Supersedes Revision: 05/24/2005

Conditions To Avoid - Hazardous Polymerization

No data available.

11. Toxicological Information

Toxicological Information

No data available.

Carcinogenicity/Other Information

No data available.

Carcinogenicity:

NTP? No

IARC Monographs? No

OSHA Regulated? No

12. Ecological Information

Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name

No data available.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Methanol	67-56-1	No	Yes 5000 LB	Yes	No
2. Toluene	108-88-3	No	Yes 1000 LB	Yes	Yes
3. Acetone	67-64-1	No	Yes 5000 LB	No	Yes
4. Propylene glycol methyl ether acetate	108-65-6	No	No	Yes-Cat. N230	No
5. Methyl ethyl ketone	78-93-3	No	Yes 5000 LB	Yes	Yes
6. Isopropyl alcohol	67-63-0	No	No	Yes	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Methanol	67-56-1	HAP	No	No	No
2. Toluene	108-88-3	HAP	Yes	8A CAIR	Yes
3. Acetone	67-64-1	No	No	No	No
4. Propylene glycol methyl ether acetate	108-65-6	HAP	No	No	No
5. Methyl ethyl ketone	78-93-3	HAP	No	No	No
6. Isopropyl alcohol	67-63-0	No	No	No	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302:

EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

Sec.304:

EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

Sec.313:

EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

Sec.110:

EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

MATERIAL SAFETY DATA SHEET

LACQUER THINNER

Page: 6

Printed: 12/14/2005

Revision: 06/16/2005

Supersedes Revision: 05/24/2005

5A(2): Chemical Subject to Significant New Rules (SNURS)
6A: Commercial Chemical Control Rules
8A: Toxic Substances Subject To Information Rules on Production
8A CAIR: Comprehensive Assessment Information Rules - (CAIR)
8A PAIR: Preliminary Assessment Information Rules - (PAIR)
8C: Records of Allegations of Significant Adverse Reactions
8D: Health and Safety Data Reporting Rules
8D TERM: Health and Safety Data Reporting Rule Terminations

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical
CAA HAP: EPA Clean Air Act Hazardous Air Pollutant
CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65: California Proposition 65

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[] Yes [X] No Acute (immediate) Health Hazard
[] Yes [X] No Chronic (delayed) Health Hazard
[] Yes [X] No Fire Hazard
[] Yes [X] No Reactive Hazard
[] Yes [X] No Sudden Release of Pressure Hazard

16. Other Information

Company Policy or 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.

MATERIAL SAFETY DATA SHEET

MINERAL SPIRITS

Page: 1

HEALTH		2
FLAMMABILITY		2
PHYSICAL HAZ.		0
PPE	G	



Printed: 12/13/2005

Revision: 06/20/2005

Date Created: 06/14/2005

1. Product and Company Identification

Product Code: GKSP94006
Product Name: MINERAL SPIRITS
Reference #: 1631.1
Manufacturer Information
Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113
Phone Number: (901)775-0100
Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892
Web site address: www.wmbarr.com

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TLV	Other Limits
1. Stoddard solvent	8052-41-3	95.0 -100.0 %	500 ppm	100 ppm	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Stoddard solvent	WJ8925000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

Caution! Combustible! Keep away from heat, sparks, flame and all other sources of ignition. Vapors may cause fire. Vapors may travel long distances to other areas and rooms away from work site. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and all other sources of ignition anywhere in the structure, dwelling or building during use and until all vapors are gone from work site and all areas away from the work site. Keep away from electrical outlets and switches. Beware of static electricity that may be generated by synthetic clothing and other sources.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Health Hazards (Acute and Chronic)

Inhalation Acute Exposure Effects:

Vapor concentration may cause headache, dizziness, irritation of the respiratory tract, eye irritation, stupor, depression of the central nervous system, watering of the eyes, weakness, nausea, muscle twitches, and kidney effects. Aspiration into lungs may cause pneumonia or death. Severe overexposure may cause convulsions, unconsciousness, and death.

Skin Contact Acute Exposure Effects:

May cause irritation.

Eye Contact Acute Exposure Effects:

Liquid contact may cause irritation.

Ingestion Acute Exposure Effects:

Harmful or fatal if swallowed. May cause nausea, weakness, muscle twitches, gastrointestinal irritation, diarrhea, unconsciousness, and death.

Chronic Exposure Effects:

MATERIAL SAFETY DATA SHEET

MINERAL SPIRITS

Page: 2
Printed: 12/13/2005
Revision: 06/20/2005

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Repeated or prolonged skin contact may cause redness, irritation, and scaling of the skin. May cause skin irritation, anemia, bone marrow damage, liver damage, and jaundice.

Signs and Symptoms Of Exposure

Primary routes of exposure:
Inhalation, ingestion, and dermal.

Medical Conditions Generally Aggravated By Exposure

None known.

OSHA Hazard Classes:

HEALTH HAZARDS : N/E
PHYSICAL HAZARDS : N/E
TARGET ORGANS & EFFECTS: N/E

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation:

If user experiences breathing difficulty, move to air free of vapors. Administer oxygen or artificial respiration until medical assistance can be rendered.

Skin contact:

Wash with soap and large quantities of water for at least 15 minutes. Seek medical attention if irritation from contact persists.

Eye contact:

Immediately flush eyes with water, remove any contact lens, continue flushing with water for at least 15 minutes. Get medical attention.

Ingestion:

Do not induce vomiting. Call your poison control center, hospital emergency room, or physician immediately.

Note to Physician

Call your local poison control center for further instructions.

5. Fire Fighting Measures

Flammability Classification:

OSHA Class II

Flash Pt:

> 107.00 F Method Used: TCC

Explosive Limits:

LEL: 1.0 UEL: No data.

Autoignition Pt:

No data.

Special Fire Fighting Procedures

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Unusual Fire and Explosion Hazards

No data available.

Extinguishing Media

Use carbon dioxide, dry powder, or foam.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Clean-up:

Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources, keep flares, smoking or flames out of hazard area.

Small spills:

Take up the spilled liquid with sand, earth, or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills:

Dike far ahead of spill for later disposal.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.

Eye Protection

Safety glasses, chemical goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves

Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

Other Protective Clothing

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. A source of clean water should be available in the work area for flushing eyes and skin. Do not eat, drink, or smoke in the work area. Wash hands thoroughly after use. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

Ventilation

Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering -- Stop -- ventilation is inadequate. Leave area immediately.

9. Physical and Chemical Properties

Physical States:

[] Gas [X] Liquid [] Solid

Melting Point:

No data.

MATERIAL SAFETY DATA SHEET

MINERAL SPIRITS

Page: 4
Printed: 12/13/2005
Revision: 06/20/2005

Boiling Point: > 316.00 F
Autoignition Pt: No data.
Flash Pt: > 107.00 F Method: TCC
Explosive Limits: LEL: 1.0 UEL: No data.
Specific Gravity: No data.
Bulk Density: 6.380 LB/GA
Vapor Pressure: No data.
Vapor Density: No data.
Evaporation Rate: No data.
Solubility in Water: No data.
Percent Volatile: 100.0 % by weight.
VOC / Volume: 815.0000 G/L
Corrosion Rate: No data.
pH: No data.
Appearance and Odor
No data available.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Incompatible with strong oxidizing agents.

Hazardous Decomposition Or Byproducts

Thermal decomposition may produce carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

No data available.

11. Toxicological Information

Toxicological Information

No data available.

Carcinogenicity/Other Information

No data available.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with applicable local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name

No data available.

MATERIAL SAFETY DATA SHEET

MINERAL SPIRITS

Page: 5
Printed: 12/13/2005
Revision: 06/20/2005

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)

1. Stoddard solvent

CAS

8052-41-3

Sec.302 (EHS)

No

Sec.304 RQ

No

Sec.313 (TRI)

No

Sec.110

No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)

1. Stoddard solvent

CAS

8052-41-3

EPA CAA

No

EPA CWA NPDES

No

EPA TSCA

No

CA PROP 65

No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302:

EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

Sec.304:

EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

Sec.313:

EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

Sec.110:

EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

5A(2):

Chemical Subject to Significant New Rules (SNURS)

6A:

Commercial Chemical Control Rules

8A:

Toxic Substances Subject To Information Rules on Production

8A CAIR:

Comprehensive Assessment Information Rules - (CAIR)

8A PAIR:

Preliminary Assessment Information Rules - (PAIR)

8C:

Records of Allegations of Significant Adverse Reactions

8D:

Health and Safety Data Reporting Rules

8D TERM:

Health and Safety Data Reporting Rule Terminations

Other Important Lists:

CWA NPDES:

EPA Clean Water Act NPDES Permit Chemical

CAA HAP:

EPA Clean Air Act Hazardous Air Pollutant

CAA ODC:

EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)

CA PROP 65:

California Proposition 65

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[] Yes [X] No Acute (immediate) Health Hazard

[] Yes [X] No Chronic (delayed) Health Hazard

[] Yes [X] No Fire Hazard

[] Yes [X] No Reactive Hazard

[] Yes [X] No Sudden Release of Pressure Hazard

16. Other Information

Company Policy or 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.

MATERIAL SAFETY DATA SHEET

KLEAN STRIP PAINT THINNER

Page: 1

HEALTH	2
FLAMMABILITY	2
PHYSICAL HAZ.	0
PPE	G



Printed: 12/14/2005

Revision: 10/03/2005

Date Created: 10/03/2005

1. Product and Company Identification

Product Code: GKPT94400
Product Name: KLEAN STRIP PAINT THINNER
Reference #: 1677.1
Manufacturer Information
Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113
Phone Number: (901)775-0100
Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892
Web site address: www.wmbarr.com

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA TWA	ACGIH TWA	Other Limits
1. Stoddard solvent	8052-41-3	95.0 -100.0 %	500 ppm	100 ppm	No data.
2. 1,2,4-Trimethylbenzene	95-63-6	1.0 -2.0 %	200 ppm	50 ppm	No data.
3. Raffinates (petroleum), sorption process	64741-85-1	95.0 -100.0 %	1000 ppm	500 ppm	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Stoddard solvent	WJ8925000	No data.	No data.	250 ppm	No data.
2. 1,2,4-Trimethylbenzene	DC3325000	500 ppm/(10min)	300 ppm	No data.	No data.
3. Raffinates (petroleum), sorption process	NA	No data.	No data.	750 ppm	No data.

3. Hazards Identification

Emergency Overview

Caution! Combustible. Keep away from heat, sparks, flame and all other sources of ignition. Vapors may cause fire. Vapors may travel long distances to other areas and rooms away from work site. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and all other sources of ignition anywhere in the structure, dwelling or building during use and until all vapors are gone from work site and all areas away from work site. Keep away from electrical outlets and switches. Beware of static electricity that may be generated by synthetic clothing and other sources.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic)

Inhalation Acute Exposure Effects:

May cause dizziness; headache; watering of eyes; eye irritation; weakness; nausea; muscle twitches, and depression of central nervous system. Severe overexposure may cause convulsions; unconsciousness; and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

Skin Contact Acute Exposure Effects:

May cause irritation; numbness in the fingers and arms; drying of skin; and dermatitis. May cause increased severity of symptoms listed under inhalation.

Eye Contact Acute Exposure Effects:

This material is an eye irritant. May cause irritation; burns; conjunctivitis of eyes; and corneal ulcerations of the eye. Vapors may irritate eyes.

Ingestion Acute Exposure Effects:

MATERIAL SAFETY DATA SHEET

KLEAN STRIP PAINT THINNER

Page: 2
Printed: 12/14/2005
Revision: 10/03/2005

Harmful or fatal if swallowed. May cause nausea; weakness; muscle twitches; gastrointestinal irritation; and diarrhea. Severe overexposure may cause convulsions; unconsciousness; and death.

Chronic Exposure Effects:

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Prolonged or repeated contact may cause dermatitis. May cause jaundice; bone marrow damage; liver damage; anemia; and skin irritation.

Signs and Symptoms Of Exposure

Inhalation, ingestion, and dermal are possible routes of exposure.

Medical Conditions Generally Aggravated By Exposure

Diseases of the skin, eyes, liver, kidneys, central nervous system and respiratory system.

OSHA Hazard Classes:

HEALTH HAZARDS : N/E

PHYSICAL HAZARDS : N/E

TARGET ORGANS & EFFECTS: N/E

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation:

If user experiences breathing difficulty, move to air free of vapors, Administer oxygen or artificial medical assistance can be rendered.

Skin Contact:

Wash with soap and large quantities of water and seek medical attention if irritation from contact persists.

Eye Contact:

Flush with large quantities of water for at least 15 minutes and seek immediate medical attention.

Ingestion:

Do not induce vomiting. Call your local poison control center, hospital emergency room or physician immediately for instructions to induce vomiting.

Note to Physician

Call your local poison control center for further information.

5. Fire Fighting Measures

Flammability Classification:

Class II

Flash Pt:

105.00 F Method Used: SCC

Explosive Limits:

LEL: 1.00 UEL: No data.

Autoignition Pt:

No data.

Fire Fighting Instructions

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards

No data available.

Extinguishing Media

Use carbon dioxide, dry powder, or foam.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Clean up:

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area.

Small spills:

Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills:

Dike far ahead of spill for later disposal.

Waste Disposal:

Dispose in accordance with applicable local, state and federal regulations.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.

Eye Protection

Safety glasses, goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves

Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

Other Protective Clothing

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. A source of clean water should be available in the work area for flushing eyes and skin. Do not eat, drink, or smoke in the work area. Wash hands thoroughly after use. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

Engineering Controls (Ventilation etc.)

Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering - Stop - ventilation is inadequate. Leave area immediately.

MATERIAL SAFETY DATA SHEET

KLEAN STRIP PAINT THINNER

Page: 4
Printed: 12/14/2005
Revision: 10/03/2005

9. Physical and Chemical Properties

Physical States: ☐ Gas ☒ Liquid ☐ Solid
Melting Point: No data.
Boiling Point: > 310.00 F
Autoignition Pt: No data.
Flash Pt: 105.00 F Method: SCC
Explosive Limits: LEL: 1.00 UEL: No data.
Specific Gravity (Water = 1): No data.
Bulk Density: 6.659 LB/GA
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Evaporation Rate (vs Butyl Acetate=1): No data.
Solubility in Water: No data.
Percent Volatile: 100.0 % by weight.
VOC / Volume: 800.0000 G/L
Corrosion Rate: No data.
pH: No data.
Appearance and Odor

Water White / Free and Clear

10. Stability and Reactivity

Stability: Unstable ☐ Stable ☒
Conditions To Avoid - Instability
No data available.
Incompatibility - Materials To Avoid
Incompatible with strong oxidizing agents.
Hazardous Decomposition Or Byproducts
Decomposition may produce carbon monoxide and carbon dioxide.
Hazardous Polymerization: Will occur ☐ Will not occur ☒
Conditions To Avoid - Hazardous Polymerization
No data available.

11. Toxicological Information

Toxicological Information
No data available.
Carcinogenicity/Other Information
No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

Ecological Information
No data available.

13. Disposal Considerations

Waste Disposal Method
Dispose in accordance with federal, state, and local regulations.

MATERIAL SAFETY DATA SHEET

KLEAN STRIP PAINT THINNER

Page: 5
Printed: 12/14/2005
Revision: 10/03/2005

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name

No data available.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Stoddard solvent	8052-41-3	No	No	No	No
2. 1,2,4-Trimethylbenzene	95-63-6	No	No	Yes	No
3. Raffinates (petroleum), sorption process	64741-85-1	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Stoddard solvent	8052-41-3	No	No	No	No
2. 1,2,4-Trimethylbenzene	95-63-6	No	No	No	No
3. Raffinates (petroleum), sorption process	64741-85-1	No	No	No	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

Sec.304: EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

Sec.313: EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

5A(2): Chemical Subject to Significant New Rules (SNURS)
6A: Commercial Chemical Control Rules
8A: Toxic Substances Subject To Information Rules on Production
8A CAIR: Comprehensive Assessment Information Rules - (CAIR)
8A PAIR: Preliminary Assessment Information Rules - (PAIR)
8C: Records of Allegations of Significant Adverse Reactions
8D: Health and Safety Data Reporting Rules
8D TERM: Health and Safety Data Reporting Rule Terminations

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical
CAA HAP: EPA Clean Air Act Hazardous Air Pollutant
CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65: California Proposition 65

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[] Yes [X] No Acute (immediate) Health Hazard
[] Yes [X] No Chronic (delayed) Health Hazard
[] Yes [X] No Fire Hazard
[] Yes [X] No Reactive Hazard
[] Yes [X] No Sudden Release of Pressure Hazard

16. Other Information

Company Policy or 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.

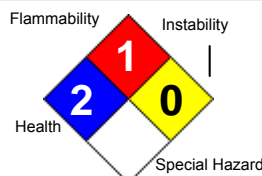
MATERIAL SAFETY DATA SHEET

Klean-Strip Premium Sprayable Stripper

Page: 1



HEALTH		2
FLAMMABILITY		1
PHYSICAL		0
PPE		X



Printed: 05/18/2011
Revision: 05/16/2011

1. Product and Company Identification

Product Code: 31051.6

Product Name: Klean-Strip Premium Sprayable Stripper

Manufacturer Information

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346

Information: W.M. Barr Customer Service (800)398-3892

Web site address: www.wmbarr.com

Preparer Name: W.M. Barr EHS Dept (901)775-0100

Synonyms
GBLKSPRY, QBLK221, GKS221, QKS221

2. Hazards Identification

Emergency Overview

Danger! Poison. May be fatal or cause blindness if swallowed. Eye and skin irritant. Vapor harmful.

Use only with adequate ventilation to prevent buildup of vapors. If the work area is not well ventilated, do not use this product.

Keep out of reach of children.

Potential Health Effects (Acute and Chronic)

This product has not been tested as a whole to determine health effects. The health effects listed below are associated with the individual ingredients listed in Section 3.

EYES: Causes eye irritation. May cause tearing, redness, stinging or burning, swelling, and blurred vision. May cause corneal injury.

SKIN: May cause effects ranging from mild irritation to severe pain, and possibly burns, depending on the intensity of contact. Skin absorption may occur.

INHALATION: May cause upper respiratory tract irritation and central nervous system depression with symptoms such as confusion, lightheadedness, dizziness, nausea, vomiting, headache, and fatigue. Causes formation of carbon monoxide in blood which may affect the cardiovascular system and central nervous system, and can cause a lack of oxygen in the blood. Continued exposure may cause unconsciousness, coma, and even death.

INGESTION: May cause nausea, vomiting, and diarrhea. May cause central nervous system excitement, followed by headache, dizziness, and drowsiness. If vomiting results in aspiration, chemical pneumonia could occur, which may be fatal. Absorption through the gastrointestinal tract may produce central nervous system depression. May cause kidney damage. May cause blurred vision and visual impairment (including blindness).

MATERIAL SAFETY DATA SHEET

Klean-Strip Premium Sprayable Stripper

Page: 2
Printed: 05/18/2011
Revision: 05/16/2011

CHRONIC OVEREXPOSURE EFFECTS: May cause liver and kidney damage. May cause cancer based on animal data (methylene chloride). Prolonged or repeated skin contact may cause defatting and dermatitis.

Methanol has caused birth defects in laboratory animals, but only when inhaled at extremely high vapor concentrations. The relevance of this finding to humans is uncertain.

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Intentional misuse by deliberately concentrating and inhaling solvents may be harmful or fatal.

ADDITIONAL DATA:

For Methylene Chloride: Alcohol may enhance the toxic effects. May cross the placenta. May be excreted in breast milk. Concurrent exposure to carbon monoxide, smoking, or physical activity may increase the level of carboxyhemoglobin in the blood resulting in additive effects.

TARGET ORGANS: blood, central nervous system, liver, skin, cardiovascular system, eyes, kidney, pancreas, heart, lungs, brain

PRIMARY ROUTES OF ENTRY: skin, eyes, inhalation, ingestion

Signs and Symptoms Of Exposure

See Potential Health Effects.

Medical Conditions Generally Aggravated By Exposure

Diseases of the blood, skin, eyes, liver, kidneys, lungs, cardiovascular system and respiratory system; alcoholism and rhythm disorders of the heart.

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	RTECS #
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	60.0 -100.0 %	PA8050000
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	10.0 -30.0 %	PC1400000
3. Isopropyl alcohol {sec-Propyl alcohol; IPA; 2-Propanol}	67-63-0	1.0 -5.0 %	NT8050000
4. Ethyl alcohol {Ethanol}	64-17-5	1.0 -5.0 %	KQ6300000

4. First Aid Measures

Emergency and First Aid Procedures

Skin:

Immediately begin washing the skin thoroughly with large amounts of water and mild soap, if available, while removing contaminated clothing. Seek medical attention if irritation persists.

Eyes:

Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes, then seek immediate medical attention.

Inhalation:

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

Ingestion:

MATERIAL SAFETY DATA SHEET

Klean-Strip Premium Sprayable Stripper

Page: 3
Printed: 05/18/2011
Revision: 05/16/2011

If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.

Note to Physician

This product contains methylene chloride and methanol.

This product contains methanol which can cause intoxication and central nervous system depression. Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 ug/dl. Methanol is effectively removed by hemodialysis.

Methylene Chloride is an aspiration hazard. Risk of aspiration must be weighed against possible toxicity of the material when determining whether to induce emesis or to perform gastric lavage. This material sensitizes the heart to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. This material is metabolized to carbon monoxide. Consequently, elevations in carboxyhemoglobin as high as 50% have been reported, and levels may continue to rise for several hours after exposure has ceased. Data in experimental animals suggest there is a narrow margin between concentrations causing anesthesia and death. Adrenalin should never be given to a person overexposed to methylene chloride.

5. Fire Fighting Measures

Flammability Classification:	Flashpoint: no flash to boiling	
Flash Pt:	NA	
Explosive Limits:	LEL: No data.	UEL: No data.
Autoignition Pt:	No data available.	

Fire Fighting Instructions

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards

Flashpoint: No flash to boiling. This material does not exhibit a flashpoint per the Setaflash Closed Cup test method.

Contact of liquid or vapor with flame or hot surfaces will produce toxic gases and a corrosive residue that will cause deterioration of metal.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide, hydrogen chloride, chlorine, phosgene

Suitable Extinguishing Media

Use carbon dioxide, dry powder, or foam.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Isolate the immediate area. Prevent unauthorized entry. Eliminate all sources of ignition in area and downwind of the spill area. Stay upwind, out of low areas, and ventilate closed spaces before entering. All equipment used when handling this product must be grounded or non-sparking. Do not touch or walk through spilled material. Stop leak if you can do so without risk. Prevent entry into waterways, sewers, or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand, or other non-combustible

MATERIAL SAFETY DATA SHEET

Klean-Strip Premium Sprayable Stripper

Page: 4
Printed: 05/18/2011
Revision: 05/16/2011

material and transfer to compatible containers. For large spills, dike ahead of the spill.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Precautions To Be Taken in Storing

Store in a cool place in original container and protect from sunlight. Exposure to high temperatures or prolonged exposure to sun may cause can to leak or swell. Once opened, remover should be used within six months or discarded to avoid can deterioration. Do not store near flames or at elevated temperatures.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA TWA	ACGIH TWA	Other Limits
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	PEL: 25 ppm STEL: 125 ppm (15 min)	TLV: 50 ppm	No data.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	PEL: 200 ppm	TLV: 200 ppm STEL: 250 ppm	No data.
3. Isopropyl alcohol {sec-Propyl alcohol; IPA; 2-Propanol}	67-63-0	PEL: 400 ppm	TLV: 200 ppm STEL: 400 ppm	No data.
4. Ethyl alcohol {Ethanol}	64-17-5	PEL: 1000 ppm	TLV: 1000 ppm	No data.

Respiratory Equipment (Specify Type)

For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved self-contained breathing apparatus or powered air supply respirator or loose fitting hood.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection

Chemical goggles, or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Chemical goggles or face shields are recommended when splashing or spraying of chemical is possible. A faceshield provides more protection to help reduce chemical contact to the face and eyes.

Protective Gloves

Wear gloves with as much resistance to the chemical ingredients as possible. Laminate film gloves offer the best protection. Other glove materials, such as nitrile rubber, neoprene, and PVC will be degraded by methylene chloride, but may provide protection for some amount of time, based on the type of glove and the conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.)

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Use only with adequate ventilation to prevent buildup of vapors. If the work area is not well ventilated, DO NOT use this product. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas.

Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight

MATERIAL SAFETY DATA SHEET

Klean-Strip Premium Sprayable Stripper

Page: 5
Printed: 05/18/2011
Revision: 05/16/2011

dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

Work/Hygienic/Maintenance Practices

A source of clean water should be available in the work area for flushing of the eyes and skin.

Wash hands thoroughly after use.

Do not eat, drink, or smoke in the work area.

Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use.

Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

9. Physical and Chemical Properties

Physical States: ☐ Gas ☒ Liquid ☐ Solid

Melting Point: No data.

Boiling Point: No data.

Autoignition Pt: No data.

Flash Pt: NA

Specific Gravity (Water = 1): 1.125

Density: 9.355 LB/GL

Vapor Pressure (vs. Air or mm Hg): No data.

Vapor Density (vs. Air = 1): > 1

Evaporation Rate (vs Butyl Acetate=1): < 1

Solubility in Water: Slight

Percent Volatile: 98 % by weight.

VOC / Volume: 25 % WT

Viscosity: 350 cps

Appearance and Odor

Translucent to colorless liquid.

10. Stability and Reactivity

Stability: Unstable ☐ Stable ☒

Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Bases, oxygen, sodium, potassium, strong oxidizers, reactive metals, strong acids

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide and carbon dioxide, hydrogen chloride, chlorine gas, and small quantities of phosgene.

Possibility of Hazardous Reactions: Will occur ☐ Will not occur ☒

Conditions To Avoid - Hazardous Reactions

No data available.

11. Toxicological Information

This product has not been tested as a whole.

Chronic Toxicological Effects

This product has not been tested as a whole.

Carcinogenicity/Other Information

IARC 2B - Possibly Carcinogenic to Humans

ACGIH A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

ACGIH A4 - Not Classifiable as a Human Carcinogen.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	Possible	2B	A3	Yes
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	n.a.	n.a.	n.a.	n.a.
3. Isopropyl alcohol {sec-Propyl alcohol; IPA; 2-Propanol}	67-63-0	n.a.	n.a.	A4	n.a.
4. Ethyl alcohol {Ethanol}	64-17-5	n.a.	n.a.	A4	n.a.

12. Ecological Information

This product has not been tested as a whole.

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with applicable local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Paint Related Material

DOT Hazard Class: 8

DOT Hazard Label: CORROSIVE

UN/NA Number: UN3066

Packing Group: II

Additional Transport Information

For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

The shipper/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.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	No	Yes 1000 LB	Yes	Yes
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	No	Yes 5000 LB	Yes	No
3. Isopropyl alcohol {sec-Propyl alcohol; IPA; 2-Propanol}	67-63-0	No	No	Yes	No
4. Ethyl alcohol {Ethanol}	64-17-5	No	No	No	No

MATERIAL SAFETY DATA SHEET

Klean-Strip Premium Sprayable Stripper

Page: 7
Printed: 05/18/2011
Revision: 05/16/2011

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	HAP, ODC ()	Yes	Inventory, 4 Test, 8A CAIR	Yes
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	HAP, ODC ()	No	Inventory	No
3. Isopropyl alcohol {sec-Propyl alcohol; IPA; 2-Propanol}	67-63-0	HAP, ODC ()	No	Inventory	No
4. Ethyl alcohol {Ethanol}	64-17-5	HAP, ODC ()	No	Inventory	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302:	EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
Sec.304:	EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
Sec.313:	EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
Sec.110:	EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

Inventory:	Chemical Listed in the TSCA Inventory.
5A(2):	Chemical Subject to Significant New Rules (SNURS)
6A:	Commercial Chemical Control Rules
8A:	Toxic Substances Subject To Information Rules on Production
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations
12(b):	Notice of Export

Other Important Lists:

CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65:	California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[X] Yes [] No Acute (immediate) Health Hazard
[X] Yes [] No Chronic (delayed) Health Hazard
[] Yes [X] No Fire Hazard
[] Yes [X] No Sudden Release of Pressure Hazard
[] Yes [X] No Reactive Hazard

16. Other Information

Company Policy or 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.

SAFETY DATA SHEET

Klean Strip Denatured Alcohol

Page: 1

Printed: 09/30/2014

Revision: 09/10/2014

Supersedes Revision: 12/05/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Klean Strip Denatured Alcohol
Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113
Phone Number: (901)775-0100
Web site address: www.wmbarr.com
Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892
Intended Use: Cleans glass and is used as a fuel for marine stoves
Synonyms: CSL26, GSL26, QSL26, QSL26W

2. HAZARDS IDENTIFICATION

Flammable Liquids, Category 2

Serious Eye Damage/Eye Irritation, Category 2A

Target Organ Systemic Toxicity (single exposure), Category 1



GHS Signal Word: Danger

GHS Hazard Phrases: H225: Highly flammable liquid and vapor.
H319: Causes serious eye irritation.
H370: Causes damage to organs.

GHS Precaution Phrases: P233: Keep container tightly closed.
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P243: Take precautionary measures against static discharge.
P242: Use only non-sparking tools.
P264: Wash hands thoroughly after handling.
P260: Do not breathe gas/mist/vapours/spray.
P270: Do not eat, drink or smoke when using this product.

GHS Response Phrases: P370+378: In case of fire, use dry chemical to extinguish.
P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313: If eye irritation persists, get medical advice/attention.
P321: Specific treatment see label.

GHS Storage and Disposal Phrases: P403+235: Store in cool/well-ventilated place.
P501: Dispose of contents/container according to local, state and federal regulations.
P405: Store locked up.

SAFETY DATA SHEET

Klean Strip Denatured Alcohol

Page: 2

Printed: 09/30/2014

Revision: 09/10/2014

Supersedes Revision: 12/05/2013

Emergency Overview:

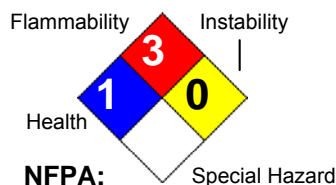
Danger! Poison. Flammable. May be fatal or cause blindness if swallowed. Vapor harmful.

Keep away from heat, sparks, flame, and all other sources of ignition. Vapors may cause flash fire or ignite explosively.

Use only with adequate ventilation to prevent buildup of vapors. If the work area is not well ventilated, do not use this product.

Hazard Rating System:

HEALTH	*	2
FLAMMABILITY		3
PHYSICAL		0
PPE		X

**HMIS:****OSHA Regulatory Status:**

This material is classified as hazardous under OSHA regulations.

**Potential Health Effects
(Acute and Chronic):**

Inhalation Acute Exposure Effects:

Vapor harmful. May cause dizziness, headache, watering of eyes, irritation of respiratory tract, irritation to the eyes, drowsiness, nausea, other central nervous system effects, spotted or blurry vision, dilation of pupils, and convulsions.

Skin Contact Acute Exposure Effects:

May cause irritation, drying of skin, redness, and dermatitis. May cause symptoms listed under inhalation. May be absorbed through damaged skin.

Eye Contact Acute Exposure Effects:

May cause irritation.

Ingestion Acute Exposure Effects:

Poison. Cannot be made non-poisonous. May be fatal or cause blindness. May produce fluid in the lungs and pulmonary edema. May cause dizziness, headache, nausea, drowsiness, loss of coordination, stupor, reddening of face and or neck, liver, kidney and heart damage, coma, and death. May produce symptoms listed under inhalation.

Chronic Exposure Effects:

May cause symptoms listed under inhalation, dizziness, fatigue, tremors, permanent central nervous system changes, blindness, pancreatic damage, and death.

Target Organs:

Liver, kidneys, pancreas, heart, lungs, brain, central nervous system, eyes

**Medical Conditions Generally
Aggravated By Exposure:**

Diseases of the liver, skin, lung, kidney, central nervous system, pancreas, and heart; asthma; inflammatory or fibrotic pulmonary disease; any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease, or anemias

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
64-17-5	Ethyl alcohol {Ethanol}	42.5 -46.5 %
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	52.5 -55.0 %
108-10-1	Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	< 1.0 %

SAFETY DATA SHEET

Klean Strip Denatured Alcohol

Page: 3

Printed: 09/30/2014

Revision: 09/10/2014

Supersedes Revision: 12/05/2013

141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	< 0.5 %
142-82-5	Heptane	< 0.5 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

Skin:

Immediately begin washing the skin thoroughly with large amounts of water and mild soap, if available, while removing contaminated clothing. Seek medical attention if irritation persists.

Eyes:

Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes, then seek immediate medical attention.

Inhalation:

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

Ingestion:

If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.

Signs and Symptoms Of Exposure:

See Potential Health Affects

Note to Physician:

Poison. This product contains methanol. Methanol is metabolized to formaldehyde and formic acid. These metabolites may cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used as an antidote. Methanol is effectively removed by hemodialysis. Call your local poison control center for further instructions.

5. FIRE FIGHTING MEASURES

OSHA Class IB

Flash Pt:

45.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash)

Explosive Limits:

LEL: No data.

UEL: No data.

Autoignition Pt:

No data.

Suitable Extinguishing Media: Use carbon dioxide, dry powder, or alcohol resistant foam.

Unsuitable Extinguishing Media:

Water may be ineffective. Solid streams of water will likely spread the fire.

Fire Fighting Instructions:

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined area. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards:

Vapors are heavier than air. Vapor may travel considerable distance to source of ignition and flash back.

6. ACCIDENTAL RELEASE MEASURES

**Steps To Be Taken In Case
Material Is Released Or
Spilled:**

Vapors are heavier than air. Vapors may cause flash fire or ignite explosively.

Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc.

Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. HANDLING AND STORAGE

**Precautions To Be Taken in
Handling:**

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms where vapors can accumulate. Vapors can accumulate and explode if ignited.

Do not use this product if the work area is not well ventilated. Use only with adequate ventilation to prevent build up of vapors.

Do not spread this product over large surface areas because fire and health safety risks will increase dramatically.

Use proper bonding and grounding when transferring material. Be aware of static electricity generation when handling material.

**Precautions To Be Taken in
Storing:**

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
64-17-5	Ethyl alcohol {Ethanol}	PEL: 1000 ppm	TLV: 1000 ppm	No data.
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	PEL: 200 ppm	TLV: 200 ppm STEL: 250 ppm	No data.
108-10-1	Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK;	PEL: 100 ppm	TLV: 50 ppm STEL: 75 ppm	No data.

SAFETY DATA SHEET

Klean Strip Denatured Alcohol

Page: 5

Printed: 09/30/2014

Revision: 09/10/2014

Supersedes Revision: 12/05/2013

4-Methyl-2-pentanone}

141-78-6 Acetic acid, ethyl ester {Ethyl acetate} PEL: 400 ppm TLV: 400 ppm No data.

142-82-5 Heptane PEL: 500 ppm TLV: 400 ppm No data.

Respiratory Equipment (Specify Type):

For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection:

Chemical splash goggles should be worn to prevent eye contact.

Protective Gloves:

Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile, natural rubber, and neoprene will provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing:

Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.):

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

Work/Hygienic/Maintenance Practices:

Wash hands thoroughly after use and before eating, drinking, smoking, or using the restroom.

Do not eat, drink, or smoke in the work area.

Discard any clothing or other protective equipment that cannot be decontaminated.

Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.

SAFETY DATA SHEET

Klean Strip Denatured Alcohol

Page: 6

Printed: 09/30/2014

Revision: 09/10/2014

Supersedes Revision: 12/05/2013

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States: [] Gas [X] Liquid [] Solid
Appearance and Odor: Water white, alcohol odor
Melting Point: No data.
Boiling Point: 147.00 F
Autoignition Pt: No data.
Flash Pt: 45.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash)
Explosive Limits: LEL: No data. UEL: No data.
Specific Gravity (Water = 1): 0.7934 - 0.8108
Density: 6.646 LB/GL
Vapor Pressure (vs. Air or mm Hg): 76 MM HG at 68.0 F
Vapor Density (vs. Air = 1): > 1
Evaporation Rate: > 1
Solubility in Water: No data.
Percent Volatile: 100.0 % by weight.
VOC / Volume: 793.0000 G/L

10. STABILITY AND REACTIVITY

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: No data available.
Incompatibility - Materials To Avoid: Incompatible with strong oxidizing agents, strong acids, reactive metals, halogens, strong inorganic acids, and aldehydes.
Hazardous Decomposition Or Byproducts: Decomposition may produce carbon monoxide and carbon dioxide.
Possibility of Hazardous Reactions: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions: No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information: This product has not been tested as a whole.
CAS# 108-10-1:
Carcinogenicity/Other Information: Standard Draize Test, Eyes, Species: Rabbit, 40.00 MG, Severe; Union Carbide Data Sheet, Union Carbide Corp., 39 Old Ridgebury Rd., Danbury, CT 06817, Vol/p/yr: 4/25, 1958

CAS# 141-78-6:
Standard Draize Test, Eyes, Human, 400.0 PPM.
Result:
Liver: Hepatitis (hepatocellular necrosis), zonal.
- Journal of Industrial Hygiene and Toxicology, Vol/p/yr: 25,282, 1943
IARC 1 - Carcinogenic to Humans
IARC 2B - Possibly Carcinogenic to Humans
ACGIH A4 - Not Classifiable as a Human Carcinogen.

IARC has determined that the consumption of alcoholic beverages is casually related to the occurrence of malignant tumors of the oral cavity, pharynx, larynx, esophagus, and

SAFETY DATA SHEET

Klean Strip Denatured Alcohol

Page: 7
Printed: 09/30/2014
Revision: 09/10/2014
Supersedes Revision: 12/05/2013

liver in humans. The carcinogenic response attributed to drinking alcoholic beverages has not been verified in studies with laboratory animals. Established uses of denatured ethanol and non-beverage use of pure ethanol are not considered to pose any significant cancer hazard.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
64-17-5	Ethyl alcohol {Ethanol}	n.a.	1	A4	n.a.
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	n.a.	n.a.	n.a.	n.a.
108-10-1	Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	n.a.	2B	n.a.	n.a.
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	n.a.	n.a.	n.a.	n.a.
142-82-5	Heptane	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

General Ecological Information: This product has not been tested as a whole.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose in accordance with applicable local, state, and federal regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Alcohols, n.o.s. (Ethyl Alcohol, Methanol)

DOT Hazard Class: 3 FLAMMABLE LIQUID

UN/NA Number: UN1987

Packing Group: II



Additional Transport Information: The transportation information listed above is suitable for all modes of transportation. IMO/IMDG, ICAO/IATA, 49 CFR

For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

The shipper / 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.

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
64-17-5	Ethyl alcohol {Ethanol}	No	No	No
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	No	Yes 5000 LB	Yes
108-10-1	Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	No	Yes 5000 LB	Yes
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	No	Yes 5000 LB	No
142-82-5	Heptane	No	No	No

SAFETY DATA SHEET

Klean Strip Denatured Alcohol

Page: 8

Printed: 09/30/2014

Revision: 09/10/2014

Supersedes Revision: 12/05/2013

This material meets the EPA ☒ Yes ☐ No Acute (immediate) Health Hazard
'Hazard Categories' defined ☒ Yes ☐ No Chronic (delayed) Health Hazard
for SARA Title III Sections ☒ Yes ☐ No Fire Hazard
311/312 as indicated: ☐ Yes ☒ No Sudden Release of Pressure Hazard
☐ Yes ☒ No Reactive Hazard

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
64-17-5	Ethyl alcohol {Ethanol}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: Yes
108-10-1	Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: Yes
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; CA PROP.65: No
142-82-5	Heptane	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test, 8A PAIR; CA PROP.65: No

Regulatory Information Statement: All components of this material are listed on the TSCA Inventory or are exempt.

16. OTHER INFORMATION

Revision Date: 09/10/2014

Preparer Name: W.M. Barr EHS Dept (901)775-0100

Additional Information About This Product: No data available.

Company Policy or 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.

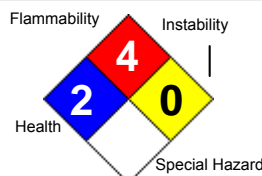
MATERIAL SAFETY DATA SHEET

Klean-Strip Strip X Stripper

Page: 1



HEALTH		2
FLAMMABILITY		4
PHYSICAL		0
PPE		X



Printed: 05/17/2011
Revision: 05/16/2011

1. Product and Company Identification

Product Code: 105.25

Product Name: Klean-Strip Strip X Stripper

Manufacturer Information

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346

Information: W.M. Barr Customer Service (800)398-3892

Web site address: www.wmbarr.com

Preparer Name: W.M. Barr EHS Dept (901)775-0100

Synonyms
GSX6, GSX62, QSX6, QSX64, QSX6L

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA TWA	ACGIH TWA	Other Limits
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	30.0 -50.0 %	25 ppm	50 ppm	No data.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	10.0 -30.0 %	200 ppm	200 ppm	No data.
3. Toluene {Benzene, Methyl-; Toluol}	108-88-3	1.0 -10.0 %	200 ppm	50 ppm	No data.
4. Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydr {Nonylphenol Ethoxylate}	9016-45-9	1.0 -5.0 %	No data.	No data.	No data.
5. Acetone {2-Propanone}	67-64-1	10.0 -30.0 %	1000 ppm	500 ppm	No data.
6. Xylene (mixed isomers) {Benzene, dimethyl-}	1330-20-7	7.0 -13.0 %	100 ppm	100 ppm	No data.
7. Polymer Mixture	NA	1.0 -10.0 %	No data.	No data.	No data.
8. Ethylbenzene {Ethylbenzol; Phenylethane}	100-41-4	1.0 -5.0 %	100 ppm	100 ppm	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	PA8050000	125 ppm (15 min)	No data.	No data.	No data.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	PC1400000	No data.	No data.	250 ppm	No data.
3. Toluene {Benzene, Methyl-; Toluol}	XS5250000	500 ppm/(10min)	300 ppm	No data.	No data.
4. Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydr {Nonylphenol Ethoxylate}	WZ4375000	No data.	No data.	No data.	No data.
5. Acetone {2-Propanone}	AL3150000	No data.	No data.	750 ppm	No data.
6. Xylene (mixed isomers) {Benzene, dimethyl-}	ZE2100000	No data.	No data.	150 ppm	No data.
7. Polymer Mixture	NA	No data.	No data.	No data.	No data.
8. Ethylbenzene {Ethylbenzol; Phenylethane}	DA0700000	No data.	No data.	125 ppm	No data.

3. Hazards Identification

Emergency Overview

Danger! Flammable. Poison. May be fatal or cause blindness if swallowed. Eye and skin irritant. Vapor harmful.

Keep away from heat, sparks, flame and all other sources of ignition. Vapors may cause flash fire or ignite explosively.

Only use with adequate ventilation to prevent buildup of vapors. If the work area is not well ventilated, do not use this product.

Keep out of reach of children.

Potential Health Effects (Acute and Chronic)

This product has not been tested as a whole to determine health effects. The health effects listed below are associated with the individual ingredients listed in Section 3.

EYES: Causes eye irritation. May cause tearing, redness, stinging or burning, swelling, and blurred vision. May cause corneal injury.

SKIN: May cause effects ranging from mild irritation to severe pain, and possibly burns, depending on the intensity of contact. Skin absorption may occur.

INHALATION: May cause upper respiratory tract irritation and central nervous system depression with symptoms such as confusion, lightheadedness, dizziness, nausea, vomiting, headache, and fatigue. Causes formation of carbon monoxide in blood which may affect the cardiovascular system and central nervous system, and can cause a lack of oxygen in the blood. Continued exposure may cause unconsciousness, coma, and even death.

INGESTION: May cause nausea, vomiting, and diarrhea. May cause central nervous system excitement, followed by headache, dizziness, and drowsiness. If vomiting results in aspiration, chemical pneumonia could occur, which may be fatal. Absorption through the gastrointestinal tract may produce central nervous system depression. May cause kidney damage. May cause blurred vision and visual impairment (including blindness).

CHRONIC OVEREXPOSURE EFFECTS: May cause liver and kidney damage. May cause cancer based on animal data (methylene chloride). Prolonged or repeated skin contact may cause defatting and dermatitis.

Methanol has caused birth defects in laboratory animals, but only when inhaled at extremely high vapor concentrations. The relevance of this finding to humans is uncertain.

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Intentional misuse by deliberately concentrating and inhaling solvents may be harmful or fatal.

ADDITIONAL DATA:

For Methylene Chloride: Alcohol may enhance the toxic effects. May cross the placenta. May be excreted in breast milk. Concurrent exposure to carbon monoxide, smoking, or physical activity may increase the level of carboxyhemoglobin in the blood resulting in additive effects.

TARGET ORGANS: blood, central nervous system, liver, skin, cardiovascular system, eyes, kidney, pancreas, heart, lungs, brain

PRIMARY ROUTES OF ENTRY: skin, eyes, inhalation, ingestion

Signs and Symptoms Of Exposure

See Potential Health Effects.

Medical Conditions Generally Aggravated By Exposure

Diseases of the blood; skin; eyes; liver; kidneys; lungs; pulmonary system; cardiovascular system and respiratory system; alcoholism and rhythm disorders of the heart.

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

4. First Aid Measures

Emergency and First Aid Procedures

Skin:

Immediately begin washing the skin thoroughly with large amounts of water and mild soap, if available, while removing contaminated clothing. Seek medical attention if irritation persists.

Eyes:

Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes, then seek immediate medical attention.

Inhalation:

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

Ingestion:

If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.

Note to Physician

This product contains methylene chloride and methanol.

This product contains methanol which can cause intoxication and central nervous system depression. Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 ug/dl. Methanol is effectively removed by hemodialysis. Adrenalin should never be given to a person overexposed to methylene chloride.

Methylene Chloride is an aspiration hazard. Risk of aspiration must be weighed against possible toxicity of the material when determining whether to induce emesis or to perform gastric lavage. This material sensitizes the heart to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. This material is metabolized to carbon monoxide. Consequently, elevations in carboxyhemoglobin as high as 50% have been reported, and levels may continue to rise for several hours after exposure has ceased. Data in experimental animals suggest there is a narrow margin between concentrations causing anesthesia and death.

5. Fire Fighting Measures

Flammability Classification:	1B
Flash Pt:	30 F (-1.1 C) Method Used: Setaflash Closed Cup (Rapid Setaflash)
Explosive Limits:	LEL: No data. UEL: No data.
Autoignition Pt:	No data available.

Fire Fighting Instructions

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards

Danger! Flammable. Keep away from heat, sparks, flame, and all other sources of ignition. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and all other sources of ignition during use and until all vapors are gone. Beware of static electricity that may be generated by synthetic clothing and other sources. Contact of liquid or vapor with flame or hot surfaces will produce toxic gases and a corrosive residue that will cause deterioration of metal.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide, hydrogen chloride, chlorine, phosgene

Extinguishing Media

Use carbon dioxide, dry powder, or alcohol resistant foam.

Unsuitable Extinguishing Media

Do not use straight streams of water. If water is used, use a water spray or fog.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Vapors may cause flash fire or ignite explosively.

Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc.

Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms. Vapors can accumulate and explode if

ignited.

Do not spread this product over large surface areas because fire and health safety risks will increase dramatically.

Precautions To Be Taken in Storing

Store in a cool place in original container and protect from sunlight. Exposure to high temperatures or prolonged exposure to sun may cause can to leak or swell. Once opened, remover should be used within six months or properly disposed of to avoid can deterioration. Do not store near flames or at elevated temperatures.

Keep container tightly closed when not in use.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved self-contained breathing apparatus or powered air supply respirator or loose fitting hood.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection

Chemical goggles, or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Chemical goggles or face shields are recommended when splashing or spraying of chemical is possible. A faceshield provides more protection to help reduce chemical contact to the face and eyes.

Protective Gloves

Wear gloves with as much resistance to the chemical ingredients as possible. Laminate film gloves offer the best protection. Other glove materials, such as nitrile rubber, neoprene, and PVC will be degraded by methylene chloride, but may provide protection for some amount of time, based on the type of glove and the conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

Engineering Controls (Ventilation etc.)

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Use only with adequate ventilation to prevent buildup of vapors. If the work area is not well ventilated, DO NOT use this product. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas.

Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

Work/Hygienic/Maintenance Practices

Wash hands thoroughly after use and before eating, drinking, or smoking.

Do not eat, drink, or smoke in the work area.

MATERIAL SAFETY DATA SHEET

Klean-Strip Strip X Stripper

Page: 6
Printed: 05/17/2011
Revision: 05/16/2011

Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.

9. Physical and Chemical Properties

Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	30 F (-1.1 C) Method Used: Setaflash Closed Cup (Rapid Setaflash)
Specific Gravity (Water = 1):	1.004
Density:	8.346 LB/GL
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	> 1
Evaporation Rate (vs Butyl Acetate=1):	< 1
Solubility in Water:	Slight
Percent Volatile:	96 % by weight.
VOC / Volume:	25 % WT
Viscosity:	1325 cps
pH:	8 - 10
Appearance and Odor	Off-white opaque viscous liquid

10. Stability and Reactivity

Stability:	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
Conditions To Avoid - Instability	Stable
Incompatibility - Materials To Avoid	Bases, oxygen, sodium, potassium, strong oxidizers, reactive metals, strong acids
Hazardous Decomposition Or Byproducts	Hydrogen chloride, chlorine, phosgene, carbon monoxide, carbon dioxide
Hazardous Polymerization:	Will occur <input type="checkbox"/> Will not occur <input checked="" type="checkbox"/>
Conditions To Avoid - Hazardous Polymerization	Will not occur.

11. Toxicological Information

This product has not been tested as a whole.

Chronic Toxicological Effects

This product has not been tested as a whole.

Carcinogenicity/Other Information

IARC 2B - Possibly Carcinogenic to Humans

IARC 3: Not Classifiable as to Carcinogenicity in Humans

ACGIH A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

ACGIH A4 - Not Classifiable as a Human Carcinogen.

MATERIAL SAFETY DATA SHEET

Klean-Strip Strip X Stripper

Page: 7
Printed: 05/17/2011
Revision: 05/16/2011

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	Possible	2B	A3	Yes
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	n.a.	n.a.	n.a.	n.a.
3. Toluene {Benzene, Methyl-; Toluol}	108-88-3	No	3	A4	No
4. Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydr {Nonylphenol Ethoxylate}	9016-45-9	n.a.	n.a.	n.a.	n.a.
5. Acetone {2-Propanone}	67-64-1	n.a.	n.a.	A4	n.a.
6. Xylene (mixed isomers) {Benzene, dimethyl-}	1330-20-7	n.a.	n.a.	A4	n.a.
7. Polymer Mixture	NA	No	No	n.a.	No
8. Ethylbenzene {Ethylbenzol; Phenylethane}	100-41-4	No	2B	A3	No

12. Ecological Information

This product has not been tested as a whole.

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with all applicable local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Paint Related Material
DOT Hazard Class: 3
DOT Hazard Label: FLAMMABLE LIQUID
UN/NA Number: UN1263
Packing Group: II

Additional Transport Information

For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

The shipper / 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.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	No	Yes 1000 LB	Yes	Yes
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	No	Yes 5000 LB	Yes	No
3. Toluene {Benzene, Methyl-; Toluol}	108-88-3	No	Yes 1000 LB	Yes	Yes
4. Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydr {Nonylphenol Ethoxylate}	9016-45-9	No	No	No	No
5. Acetone {2-Propanone}	67-64-1	No	Yes 5000 LB	No	Yes
6. Xylene (mixed isomers) {Benzene, dimethyl-}	1330-20-7	No	Yes 100 LB	Yes	Yes
7. Polymer Mixture	NA	No	No	No	No

MATERIAL SAFETY DATA SHEET

Klean-Strip Strip X Stripper

Page: 8

Printed: 05/17/2011

Revision: 05/16/2011

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
8. Ethylbenzene {Ethylbenzol; Phenylethane}	100-41-4	No	Yes 1000 LB	Yes	Yes
US EPA CAA, CWA, TSCA					
Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	HAP, ODC ()	Yes	Inventory, 4 Test, 8A CAIR	Yes
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	HAP, ODC ()	No	Inventory	No
3. Toluene {Benzene, Methyl-; Toluol}	108-88-3	HAP, ODC ()	Yes	Inventory, 8A CAIR	Yes
4. Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydr {Nonylphenol Ethoxylate}	9016-45-9	HAP, ODC ()	No	Inventory, 8A PAIR	No
5. Acetone {2-Propanone}	67-64-1	HAP, ODC ()	No	Inventory	No
6. Xylene (mixed isomers) {Benzene, dimethyl-}	1330-20-7	HAP, ODC ()	Yes	Inventory	No
7. Polymer Mixture	NA	HAP, ODC ()	No	No	No
8. Ethylbenzene {Ethylbenzol; Phenylethane}	100-41-4	HAP, ODC ()	Yes	Inventory, 4 Test	Yes
SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:					
Sec.302:	EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.				
Sec.304:	EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.				
Sec.313:	EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.				
Sec.110:	EPA SARA 110 Superfund Site Priority Contaminant List				
TSCA (Toxic Substances Control Act) Lists:					
Inventory:	Chemical Listed in the TSCA Inventory.				
5A(2):	Chemical Subject to Significant New Rules (SNURS)				
6A:	Commercial Chemical Control Rules				
8A:	Toxic Substances Subject To Information Rules on Production				
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)				
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)				
8C:	Records of Allegations of Significant Adverse Reactions				
8D:	Health and Safety Data Reporting Rules				
8D TERM:	Health and Safety Data Reporting Rule Terminations				
12(b):	Notice of Export				
Other Important Lists:					
CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical				
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant				
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)				
CA PROP 65:	California Proposition 65				
International Regulatory Lists:					
EPA Hazard Categories:					
This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:					

MATERIAL SAFETY DATA SHEET

Klean-Strip Strip X Stripper

Page: 9

Printed: 05/17/2011

Revision: 05/16/2011

☒ Yes ☐ No Acute (immediate) Health Hazard
☒ Yes ☐ No Chronic (delayed) Health Hazard
☒ Yes ☐ No Fire Hazard
☐ Yes ☒ No Sudden Release of Pressure Hazard
☐ Yes ☒ No Reactive Hazard

16. Other Information

Company Policy or 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.

KLEAN-STRIP DIV BARR W M AND CO -- GXY24 XYLOL KLEAN STRIP -- 8010-00F027796

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

Product ID:GXY24 XYLOL KLEAN STRIP
 MSDS Date:06/13/1989
 FSC:8010
 NIIN:00F027796
 MSDS Number: BRBCS
 === Responsible Party ===
 Company Name:KLEAN-STRIP DIV BARR W M AND CO
 Address:2105 CHANNEL AVE
 Box:1879
 City:MEMPHIS
 State:TN
 ZIP:38101
 Country:US
 Info Phone Num:901-775-0100
 Emergency Phone Num:901-775-0100
 CAGE:25451

=== Contractor Identification ===

Company Name:KLEAN-STRIP DIV BARR W M AND CO
 Address:2105 CARNES AVE
 Box:1879
 City:MEMPHIS
 State:TN
 ZIP:38114
 Country:US
 Phone:901-775-0100
 CAGE:25451

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

Ingred Name:XYLENE, DIMETHYLBENZENE, XYLOL
 CAS:1330-20-7
 RTECS #:ZE2100000
 Fraction by Wt: <100%
 Other REC Limits:100 PPM
 OSHA PEL:100 PPM
 ACGIH TLV:100 PPM, SKIN
 EPA Rpt Qty:1000 LBS
 DOT Rpt Qty:1000 LBS

Ingred Name:WEIGHT PER GALLON IN POUNDS: 7.180
 RTECS #:9999999WG

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

Routes of Entry: Inhalation:YES Skin:NO Ingestion:YES
 Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
 Health Hazards Acute and Chronic:INHALATION: HARMFUL, DIZZINESS,
 HEADACHE, CENTRAL NERVOUS SYSTEM DEPRESSION, ANESTHESIA, IRREGULAR
 HEARTBEAT, & WATERING OF EYES. INGESTION: GASTROINTESTINAL
 IRRITATION, NAUSEA, VOMITING, DIARRHEA, HARMFUL OR FATAL. EYES:
 IRRITATION.
 Explanation of Carcinogenicity:NONE
 Effects of Overexposure:SKIN: DERMATITIS. INHALATION: NEUROLOGICAL &
 PHYSIOLOGICAL DAMAGE. INGESTION: LIVER & KIDNEY DAMAGE, PERMANENT
 CENTRAL NERVOUS SYSTEM CHANGES.

Medical Cond Aggravated by Exposure:DISEASES OF LIVER, KIDNEYS & SKIN.

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

First Aid:INHALATION: REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING STOPS, GIVE ARTIFICIAL RESPIRATION. INGESTION: DON'T INDUCE VOMITING. CALL POISON CONTROL CENTER. SKIN: WASH W/SOAP & WATER. EYES: FLUSH W/PLENTY OF WATER FOR AT LEAST 15 MINS. OBTAIN MEDICAL ATTENTION IN ALL CASES.

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

Flash Point:82F
Lower Limits:1%
Extinguishing Media:CO2, DRY POWDER, FOAM
Fire Fighting Procedures:WEAR SELF-CONTAINED BREATHING APPARATUS IN BUILDING OR CONFINED AREAS. COOL FIRE EXPOSED CONTAINERS W/WATER SPRAY TO PREVENT PRESSURE BUILD-UP.

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

Spill Release Procedures:AVOID BREATHING VAPORS. VENTILATE AREA. FLUSH SPILL INTO SUITABLE RETAINING AREA OR CONTAINERS W/PLENTY OF WATER. ABSORB SMALL SPILLS ON APPROPRIATE INERT ABSORBENT.

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

Handling and Storage Precautions:DON'T STORE NEAR FLAMES OR AT ELEVATED TEMPERATURES. EMPTY CONTAINERS RETAIN RESIDUES, EVEN AFTER CONTAINER IS EMPTY.
Other Precautions:READ CAREFULLY ALL CAUTIONS & DIRECTIONS ON PRODUCT LABEL BEFORE USE.

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

Respiratory Protection:USE NIOSH APPROVED RESPIRATOR WHEN TLV IS EXCEEDED
Ventilation:ADEQUATE UNDER ENGINEERED AIR CONTROL SYSTEM DESIGNED TO PROVIDE MAXIMUM APPROPRIATE TLV
Protective Gloves:IMPERMEABLE
Eye Protection:SAFETY GLASSES, CHEMICAL GOGGLES
Other Protective Equipment:FACE SHIELD, IMPERMEABLE APRON
Work Hygienic Practices:WASH HANDS THOROUGHLY AFTER USE.
Supplemental Safety and Health
INTENTIONAL MISUSE OF THIS PRODUCT BY DELIBERATELY CONCENTRATING & INHALING CONTENTS CAN BE HARMFUL OR FATAL.

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

Boiling Pt:B.P. Text:279F
Vapor Density:>1
Evaporation Rate & Reference:SLOWER THAN ETHER
Percent Volatiles by Volume:100

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

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZING AGENTS
Stability Condition to Avoid:HEAT, SPARKS, FLAME, PILOT LIGHTS, STOVES, HEATERS, ELECTRIC MOTORS, STATIC ELECTRICITY & OTHER IGNITION

SOURCES

Hazardous Decomposition Products:CO & CO2

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

Waste Disposal Methods:DISPOSE OF IN ACCORDANCE W/LOCAL, STATE, &
FEDERAL 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,
expressly or implied, warrants this information to be accurate and
disclaims all liability for its use. Any person utilizing this
document should seek competent professional advice to verify and
assume responsibility for the suitability of this information to their
particular situation.



MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFICATION

PRODUCT NAME: KLEEN FOAM
PART #: KF1GN, KF2GN

(NFPA RATINGS)

HEALTH: 3

FIRE: 0

REACTIVITY: 1

HMS PROTECTIVE EQUIPMENT: X See your supervisor

PRODUCT INFORMATION

(800) 262-0012

TRANSPORTATION EMERGENCY

CHEMTREC (800) 424-9300

MEDICAL EMERGENCY

(856) 455-4555

DISTRIBUTOR / MANUFACTURER

NATIONAL REFRIGERANTS, INC.

661 KENYON AVE. ROSENHAYN, NJ

HAZARDOUS INGREDIENTS

OSHA Hazardous Components (29 CFR 1910.1200)

Sodium Hydroxide (CAS# 1310-73-2)

Tetrasodium EDTA (CAS# 64-02-8)

Potassium silicate (CAS# 1312-76-1)

Alkyl Polyglycoside (CAS# 68515-73-1)

EXPOSURE LIMITS:

OSHA PEL

CL 2 mg/m³

Not established

Not established

ND

ACGIH TLV

CL 2 mg/m³

Not established

Not established

ND

HAZARDS IDENTIFICATIONS

EMERGENCY OVERVIEW: POISON! DANGER! CORROSIVE to all body tissues. Avoid contact with skin or eyes. Harmful if inhaled or swallowed.

POTENTIAL HEALTH EFFECTS:

INHALATION: Inhalation of vapor or mist is corrosive to respiratory tract.

EYE CONTACT: Liquid or vapors are corrosive to eyes.

SKIN CONTACT: Liquid or vapors are corrosive to skin.

INGESTION: Toxic. May cause severe damage, perforation, and scarring of gastrointestinal tract.

CHRONIC Effects: Chemical pneumonitis.

NOTE:

CARCINOGENICITY: LISTED IN NTP? No

IARC? No

OSHA Regulated? No

FIRST AID MEASURES

INHALATION: Remove victims to fresh air and, if needed, immediately begin artificial respiration. Give oxygen if breathing is labored. Get emergency medical help. Contact a physician immediately.

EYE CONTACT: Flush eyes with water for 15 minutes. Get medical attention if symptoms develop and persist.

SKIN CONTACT: Flush with water or soap and water for 15 minutes or until all traces have been removed. Seek medical attention if symptoms develop and persist.

INGESTION: DO NOT INDUCE VOMITING, get immediate medical attention.



FIRE FIGHTING MEASURES

FLASHPOINT (TEST METHOD): None
FLAMMABLE LIMITS: LOWER: NA UPPER: NA
AUTOIGNITION TEMPERATURE: NA
GENERAL HAZARD: Toxic fumes of Na₂O, SO_x
FIRE FIGHTING INSTRUCTIONS: Approach fire from upwind side. Avoid breathing smoke, fumes, mist, or vapors on the downwind side. Firefighters wear protective clothing and self-contained breathing apparatus.
EXTINGUISHING MEDIA: Dry powder, carbon dioxide (CO₂), water fog or spray.
HAZARDOUS COMBUSTION PRODUCTS: Smoke, toxic fumes of Na₂O, CO, CO₂, SO_x.

ACCIDENTAL RELEASE MEASURES

LAND SPILL: Flush to sewer with large amounts of water, at least 10 parts water to 1 part cleaner. **LARGE SPILLS:** Pick up with absorbent media, vacuum truck or pump. Place in non-leaking containers for proper disposal or salvage. Notify proper local, state and federal authorities.
WATER SPILL: Notify proper authorities. Clean up leaks/spills immediately to prevent soil or water contamination.

HANDLING AND STORAGE

HANDLING: 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 IV. Launder contaminated clothing before reuse.
STORAGE: Store away from strong acid, acidic materials.

EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust recommended.
PERSONAL PROTECTION: Wear chemical impervious gloves and full-face shield. Use boots, aprons, drench showers, eyewash as needed for protection against spills and/or splashes.

PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE: 13 mmHg at 70 F
SPECIFIC GRAVITY: 1.25 g/ml
SOLUBILITY IN WATER: Complete
pH: 13.91
BOILING POINT: 228.9 F
APPEARANCE & ODOR: Pink liquid, pungent odor
VAPOR DENSITY (Air=1): ND
EVAPORATION RATE (N-BUTYL ACETATE=1): <1
VOC (G/L): ND
FREEZING POINT: ND

STABILITY AND REACTIVITY

STABILITY: Stable.
CONDITIONS TO AVOID: High temperatures.
MATERIALS TO AVOID: Strong acids, acidic materials.
HAZARDOUS DECOMPOSITION PRODUCTS: From combustion: smoke, carbon monoxide, carbon dioxide, oxides of sulfur, Na₂O.
HAZARDOUS POLYMERIZATION: Will not occur.



TOXICOLOGICAL INFORMATION

Sodium hydroxide	LDLo: 500 mg/kg		(oral - rat)
	50 g/24 hr	SEV	(eye - rabbit)
	500 mg/24 hr	SEV	(skin - rabbit)
Surfactant	LDLo: 15mg/kg/3D-1		(oral-rat)
	LD50: 2590ml/kg		(oral-rat) / 2830ml/kg (skin-rabbit)

ECOLOGICAL INFORMATION

No Data.

DISPOSAL CONSIDERATIONS

Dispose as hazardous waste. Classification and documentation is required before disposal. Follow all local, state and federal regulations.

TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: Sodium hydroxide solution
HAZARD CLASS: 8
IDENTIFICATION NUMBER: UN 1824
DOT Emergency Guide #: 154
Reportable Quantity (RQ): Not applicable
International: Sodium hydroxide solution, 8, UN 1824, PG II

REGULATORY INFORMATION

TSCA (Toxic Substance Control Act): Components of this product are listed on the TSCA Inventory.

CERCLA (Comprehensive Environmental Response, Compensation and Liability Act): The reportable quantity is 1000 pounds (sodium hydroxide). Contact local authorities for other reporting requirements.

SARA TITLE III (Superfund Amendments and Reauthorization Act): No components are listed.

CALIFORNIA PROPOSITION 65: Not listed.

National Refrigerants, Inc. believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other methods of use of the product and of the information referred to herein are beyond the control of National Refrigerants. National Refrigerants expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.

DATE OF LATEST REVISION/REVIEW:

10/09

PERSON RESPONSIBLE FOR MSDS:

Ray Madariaga

MATERIAL SAFETY DATA SHEET

KLEEN UP PRO

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

FORMULATED FOR:

LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286

24-Hour Emergency Phone: 1-800-424-9300

Medical Emergencies: 1-800-301-7976

U.S. Coast Guard National Response Center: 1-800-424-8802

PRODUCT NAME: KLEEN UP PRO
CHEMICAL NAME: Glyphosate: N- (phosphonomethyl)glycine, in the form of its Isopropylamine salt
CHEMICAL FAMILY: Herbicide
EPA REG. NO.: 34704-890
MSDS Number: 000890-06-LPI

MSDS Revisions: New

Date Of Issue: 11/07/06

Supersedes: New

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN – CAUTION – Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

This product is clear, viscous yellow-colored solution with amine odor. Primary routes of entry are Inhalation, eye contact and skin contact.

3. COMPOSITION, INFORMATION ON INGREDIENTS

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
Isopropylamine salt of Glyphosate	41.00	38641-94-0	none established
Inert Ingredients	59.00		

4. FIRST AID MEASURES

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.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: **1-800-301-7976**. Have the product container or label with you when calling a poison control center or doctor.

5. FIRE FIGHTING MEASURES

FLASH POINT (°F/Test Method): None
FLAMMABLE LIMITS (LFL & UFL): Not established
EXTINGUISHING MEDIA: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide, foam, water spray or fog.
HAZARDOUS COMBUSTION PRODUCTS: Toxic fumes may be emitted in a fire situation.
SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus and full protective clothing. Fight fire from upwind.
UNUSUAL FIRE AND EXPLOSION HAZARDS: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Keep containers cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

In case of leak or spill, contain material and dispose as waste. Do not contaminate any body of water. Sweep up material. Place it and damaged unusable containers in a landfill approved for pesticides. Check local, state and federal regulations for proper disposal.

CAUTION: Prevent spilled material from flowing onto adjacent land, or into municipal sewers and open bodies of water.

7. HANDLING AND STORAGE

HANDLING: Wash hands after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE: Store above 10°F (-12.2°C) to keep product from crystallizing. Crystals will settle to the bottom of the container. If allowed to crystallize, place in a warm room at 68°F (20°C) for several days to redissolve. Roll or shake container or recirculate in mini-bulk or bulk containers to mix well before using. Keep tightly closed. Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets with requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

RESPIRATORY PROTECTION: Not normally required, if mists/vapors exceed acceptable levels, wear a NIOSH approved pesticide respirator for organic vapor and dust/mist.

EYE PROTECTION: Chemical goggles or shielded safety glasses.

SKIN PROTECTION: Wear protective clothing: long-sleeved shirts and pants, and shoes plus socks. Wear chemical-resistant gloves.

	OSHA PEL 8 hr TWA	ACGIH TLV-TWA
For product	none established	none established

Personal Protective Equipment (PPE): Applicators and other handlers must wear: long sleeved shirt and long pants, chemical resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, and shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Clear, viscous yellow-colored solution with amine odor	SOLUBILITY: Soluble
SPECIFIC GRAVITY (Water = 1): 1.1680 g/ml	pH: 4.4 (1% solution))
VAPOR PRESSURE: Not established	BULK DENSITY: 9.75 lbs/gal.
PERCENT VOLATILE (by volume): Not established	BOILING POINT: Not established
Note: These physical data are typical values based on material tested but may vary from sample to sample.	EVAPORATION RATE: Not established
Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.	

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Use of galvanized or unlined steel.

INCOMPATIBILITY: This product and its spray solutions will react with galvanized or unlined steel to produce hydrogen gas that may form a highly combustible gas mixture, which could flash or explode if ignited. Acids and bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Will emit toxic fumes as it burns.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀ (rat): >5000 mg/kg	Acute Dermal LD₅₀ (rabbit): >5000 mg/kg
Eye Irritation (rabbit): Causes moderate eye irritation	Skin Irritation (rabbit): Essentially non-irritating
Inhalation LC₅₀ (rat): >7.03 mg/L (4 Hr. Aerosol)	Skin sensitization (guinea pig): Not a sensitizer
Carcinogenic Potential: None listed in OSHA, NTP, IARC or ACGIH	

12. ECOLOGICAL INFORMATION

This product is slightly to moderately toxic in aquatic studies. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. This product has been shown to be practically non-toxic to avian species following sub-acute dietary exposure. Do not contaminate water when disposing of equipment wash waters. Do not apply when weather conditions favor drift from target area.

13. DISPOSAL CONSIDERATIONS

Do not reuse product containers. Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures. **Plastic Containers:** Triple rinse (or equivalent), then offer for recycling at an ACRC site (go to <http://www.acrecycle.org/> for locations) or by reconditioning, or puncture and dispose of in a sanitary landfill or by other procedures approved by local, state and federal regulations. **Refillable Containers:** Do not reuse container except for refill in accordance with a valid Repackaging or Toll Repackaging Agreement from Loveland Products, Inc. If not refilled or returned to the authorized repackaging facility, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. **Bulk Tanks:** Triple rinse (or equivalent) and wash with appropriate cleaners before reusing.

14. TRANSPORT INFORMATION

DOT Shipping Description: NOT REGULATED USDOT.

U.S. Surface Freight Classification: COMPOUND, TREE OR WEED KILLING, NOI (NMFC 50320, SUB 2: CLASS 60)

Consult appropriate ICAO/IATA and IMDG regulations for shipment requirements in the Air and Maritime shipping modes.

15. REGULATORY INFORMATION

NFPA & HMIS Hazard Ratings:**NFPA**

1	Health	0	Least
1	Flammability	1	Slight
1	Instability	2	Moderate
		3	High
		4	Severe

HMIS

1	Health
1	Flammability
1	Reactivity
H	PPE

SARA Hazard Notification/Reporting

SARA Title III Hazard Category:	Immediate	<u>Y</u>	Fire	<u>N</u>	Sudden Release of Pressure	<u>N</u>
	Delayed	<u>N</u>	Reactive	<u>N</u>		

Reportable Quantity (RQ) under U.S. CERCLA: Not listed

SARA, Title III, Section 313: Not listed

RCRA Waste Code: Not listed

CA Proposition 65: Not listed

16. OTHER

MSDS STATUS: New

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental/ Regulatory Services

<p>Disclaimer and Limitation of Liability: This data sheet was developed from information on the constituent materials identified herein and does not relate to the use of such materials in combination with any other material or process. No warranty is expressed or implied with respect to the completeness or ongoing accuracy of the information contained in this data sheet, and LOVELAND PRODUCTS, INC. disclaims all liability for reliance on such information. This data sheet is not a guarantee of safety. Users are responsible for ensuring that they have all current information necessary to safely use the product described by this data sheet for their specific purpose.</p>
--

1. Identification

Product identifier KLEEN-UP SOLVENT

Other means of identification

SDS number 487N-27A

Product code HIL00437

Recommended use Floor Cleaner

Recommended restrictions Not to be used as Thinner

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	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
	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	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	

Label elements



Signal word

Danger

Hazard statement

Flammable liquid and vapor. Causes skin irritation. Causes eye irritation. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

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. Avoid release to the environment. 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 swallowed: Immediately call a poison center/doctor. 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 container tightly closed. Store in a well-ventilated place. Keep cool. 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

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: Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks, and flames. Do not cut, puncture, or weld on or near this container. Follow label warnings until container is thoroughly cleaned or destroyed.

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.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Mineral Spirits		8052-41-3	60 - < 70
1,2,4-trimethylbenzene		95-63-6	20 - < 30
BENZENE, DIMETHYL		1330-20-7	1 - < 3
BENZENE,1-METHYLETHYL-		98-82-8	< 1
Other components below reportable levels			< 0.2

*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. 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, 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 vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Call a physician or poison control center immediately.
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. 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 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. 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.
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. 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 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. 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. 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
BENZENE, DIMETHYL (CAS 1330-20-7)	PEL	435 mg/m3
BENZENE,1-METHYLETHY L- (CAS 98-82-8)	PEL	100 ppm 245 mg/m3
Mineral Spirits (CAS 8052-41-3)	PEL	50 ppm 2900 mg/m3 500 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
BENZENE, DIMETHYL (CAS 1330-20-7)	STEL	150 ppm
BENZENE,1-METHYLETHY L- (CAS 98-82-8)	TWA	100 ppm
Mineral Spirits (CAS 8052-41-3)	TWA	50 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
BENZENE,1-METHYLETHY L- (CAS 98-82-8)	TWA	245 mg/m3 50 ppm
Mineral Spirits (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
BENZENE, DIMETHYL (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

BENZENE,1-METHYLETHYL- (CAS 98-82-8) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

BENZENE,1-METHYLETHYL- (CAS 98-82-8)

Skin designation applies.

US - Tennessee OELs: Skin designation

BENZENE,1-METHYLETHYL- (CAS 98-82-8)

Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

BENZENE,1-METHYLETHYL- (CAS 98-82-8)

Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

BENZENE,1-METHYLETHYL- (CAS 98-82-8)

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**

Not available.

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. 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**

Thin, clear liquid

Physical state

Liquid.

Form

Liquid.

Color

Colorless

Odor

Mineral spirit odor

Odor threshold

Not available

pH

Not available

Melting point/freezing point

Not available

Initial boiling point and boiling range

330 °F (165.56 °C)

Flash point

108.0 °F (42.2 °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

3.4 mm Hg

Vapor density

4.6 AIR=1

Relative density

0.8 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	6.66
Percent volatile	> 99 %
VOC (Weight %)	802 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	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
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.

Information on toxicological effects

Acute toxicity	Narcotic effects.
-----------------------	-------------------

Product	Species	Test Results
KLEEN-UP SOLVENT		
Acute		
<i>Dermal</i>		
LD50	Rabbit	44206.9336 mg/kg estimated
<i>Inhalation</i>		
LC50	Mouse	10052.9102 mg/l, 2 Hours estimated
	Rat	27979.0723 ppm, 48 Hours estimated
<i>Oral</i>		
LD50	Rat	83.9372 g/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
BENZENE, DIMETHYL (CAS 1330-20-7)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 43 g/kg

Components	Species	Test Results
<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

BENZENE,1-METHYLETHYL- (CAS 98-82-8)

Acute

Inhalation

LC50	Mouse	2000 ppm, 7 Hours
		24.7 mg/l, 2 Hours
	Rat	8000 ppm, 4 Hours

Oral

LD50	Rat	1400 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 This product is not expected to cause skin sensitization.

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

BENZENE, DIMETHYL (CAS 1330-20-7) 3 Not classifiable as to carcinogenicity to humans.

BENZENE,1-METHYLETHYL- (CAS 98-82-8) 2B Possibly carcinogenic to humans.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals.

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 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 Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Product	Species		Test Results
KLEEN-UP SOLVENT			
Aquatic			
Crustacea	EC50	Daphnia	2049.9253 mg/l, 48 hours estimated
Fish	LC50	Fish	94.5091 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

Partition coefficient n-octanol / water (log Kow)

Mineral Spirits 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 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	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.
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)

BENZENE, DIMETHYL (CAS 1330-20-7)	Listed.
BENZENE,1-METHYLETHYL- (CAS 98-82-8)	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)	Not regulated.
---------------------------------	----------------

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

BENZENE, DIMETHYL (CAS 1330-20-7)	
BENZENE,1-METHYLETHYL- (CAS 98-82-8)	

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

1,2,4-trimethylbenzene (CAS 95-63-6)
BENZENE, DIMETHYL (CAS 1330-20-7)
BENZENE,1-METHYLETHYL- (CAS 98-82-8)
Mineral Spirits (CAS 8052-41-3)

US. New Jersey Worker and Community Right-to-Know Act

1,2,4-trimethylbenzene (CAS 95-63-6)
BENZENE, DIMETHYL (CAS 1330-20-7)
BENZENE,1-METHYLETHYL- (CAS 98-82-8)

US. Pennsylvania Worker and Community Right-to-Know Law

1,2,4-trimethylbenzene (CAS 95-63-6)
BENZENE, DIMETHYL (CAS 1330-20-7)
BENZENE,1-METHYLETHYL- (CAS 98-82-8)
Mineral Spirits (CAS 8052-41-3)

US. Rhode Island RTK

1,2,4-trimethylbenzene (CAS 95-63-6)
BENZENE, DIMETHYL (CAS 1330-20-7)
BENZENE,1-METHYLETHYL- (CAS 98-82-8)

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

BENZENE,1-METHYLETHYL- (CAS 98-82-8) Listed: April 6, 2010

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 05-13-2015

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.



PETTIT PAINT

MATERIAL SAFETY DATA SHEET

Supplier:	Kop-Coat, Inc. Marine Group 36 Pine Street Rockaway, NJ 07866	EMERGENCIES: Health/spills.....: Chemtrec Assistance.....: Chemtrec Outside USA.....:	800-548-0489 800-424-9300 703-527-3887
		Kop-Coat, Inc. Product Information.....: Outside USA.....:	800-221-4466 973-625-3100

1. Product Information

Product name	2018 Clear Sealer
Product code	1201800\1

Issuing date: 06/06/2011

Contact person:

Environmental Health & Safety Mgr

2. Hazards identification

Emergency Overview

Appearance: Amber Liquid

Odor:

Hydrocarbon

Hazards: DANGER!

Flammable liquid and vapor. May be harmful if swallowed. May cause eye and skin irritation. Vapor harmful.

Potential health effects

Primary Routes of Entry:

Eye contact, ingestion, skin contact, inhalation, and absorption.

Eye contact:

May cause eye irritation. Symptoms may include stinging, tearing, and redness of eyes.

Ingestion:

Aspiration of this product into the lungs during ingestion, gagging or vomiting may cause lung damage, which can be fatal. May cause gastrointestinal distress. Symptoms may include irritation to the mouth, throat and stomach and gastrointestinal disturbances such as nausea, vomiting or diarrhea.

Skin contact:

May cause skin irritation. Symptoms may include dryness, itching, burning sensation, redness, cracking and swelling depending on the extent of exposure. May be harmful if absorbed through the skin in toxic amounts and cause systemic effects.

Inhalation:

May cause irritation to the nose, throat and respiratory tract. Inhalation of high concentrations of vapors may cause respiratory tract irritation and central nervous system depression. Symptoms may include headache, nausea, dizziness and drowsiness. Continued inhalation may result in unconsciousness or death.

Chronic effects:

NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Prolonged or repeated dermal exposure to this product can cause skin dermatitis characterized by red, dry, scaly skin.

Target Organs: Not Determined

This product does not contain carcinogens or potential carcinogens as listed by IARC or NTP.

3. Composition/information on ingredients

Chemical Name	CAS-No.	Weight %	Carc
VM&P Naphtha	64742-89-8	30 - 50	
Aliphatic Hydrocarbon (Stoddard type)	8052-41-3	10 - 20	
Petroleum distillates, light aromatic	64742-95-6	1 - 10	
1,2,4-Trimethylbenzene	95-63-6	1 - 10	

4. FIRST AID MEASURES

Eye contact:

Quickly and gently blot or brush chemical off the face. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Take care not to rinse contaminated water into unaffected eye or onto the face. Call poison control center, hospital emergency room, or physician immediately.

Ingestion:

NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 2 to 8 oz. (60 to 240 mL) of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Immediately obtain medical advice.

Skin contact:

As quickly as possible, remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Immediately wash with lukewarm, gently flowing water and non-abrasive soap for 15-20 minutes. Immediately obtain medical advice. Completely decontaminate clothing, shoes and leather goods before reuse or discard.

Inhalation:

This product is combustible/flammable. Take proper precautions (e.g. remove any sources of ignition). Remove source of contamination or move victim to fresh air. Keep victim quiet and warm until emergency help arrives.

Note to Physician :

There is no specific antidote for effects from overexposure to this material. Treatment should be directed at the control of symptoms and the clinical condition.

5. FIRE-FIGHTING MEASURES

Flash point 64 deg F/ 18 deg C

Extinguishing media:

Use alcohol foam, dry chemical, carbon dioxide or any Class B fire extinguishing agent. Water may be unsuitable for extinguishing fires. Water may be used to cool and prevent the rupture of containers that are exposed to the heat from a fire.

Hazardous combustion products:

See Section 10 for potential decomposition products.

Protective equipment and precautions for firefighters:

Evacuate all persons from the fire area to a safe location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazards while extinguishing the fire. Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use. Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire-exposed containers. Use water spray to disperse vapors if a spill or leak has not ignited. DO NOT extinguish a fire resulting from the flow of flammable liquid until the flow of the liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished.

6. ACCIDENTAL RELEASE MEASURES

Personal & Environmental Precautions:

Remove sources of ignition immediately. Stop flow of material if safe to do so. Contain spill and keep out of water courses. Ventilate area. Absorb spill in sand, earth or other suitable material. Transfer to appropriate container for disposal using non-sparking tools. Follow personal protective equipment recommendations found in Section 8. Personal protection needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the training and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits.

Methods of Containment & Clean-up and Other Information:

This product, if released in large enough quantities, may need to be reported to the US Coast Guard National Response Center at 1-800-424-8802. Contain spills with dikes and absorbents (sand, earth, dry chemical absorbent) to prevent migration and entry into waterways.

7. HANDLING AND STORAGE

Handling:

Keep container closed and upright when not in use. To prevent generation of static discharges, use bonding/grounding connection when transferring material. Vapors may accumulate and travel to distant ignition sources and flashback. Extinguish all sources of ignition including pilot lights, non-explosion proof motors and electrical equipment until vapors dissipate. Since empty containers may retain product residue and flammable vapors, observe precautions even after container is emptied. Do not cut, puncture, or weld on or near empty containers. Do not smoke where product is used or stored. Avoid contact with eyes, skin or clothing. Avoid inhalation (vapor, mist, dust or fume, as applicable). Use only with adequate ventilation. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling.

Storage:

Store in areas/buildings designed to comply with OSHA 1910.106. Store away from sources of ignition and heat. Keep containers closed when not in use. Store in cool, well ventilated space away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Chemical Name</u>	<u>CAS-No.</u>	<u>Z-1 PEL</u>	<u>Z-2 PEL</u>	<u>ACGIH TLV</u>
VM&P Naphtha	64742-89-8			
Aliphatic Hydrocarbon (Stoddard type)	8052-41-3	2900 MGM3 (500 PPM)		100 PPM
Petroleum distillates, light aromatic	64742-95-6			
1,2,4-Trimethylbenzene	95-63-6			25 PPM

Engineering measures:

Use adequate ventilation to maintain airborne concentrations at levels below permissible or recommended occupational exposure limits. Supplementary local exhaust ventilation may be necessary in poorly ventilated spaces, during spraying, heating or other non-routine activities.

Eye/face protection:

Wear chemical-resistant glasses and/or goggles and a face shield when eye and face contact is possible due to splashing or spraying of material.

Skin protection:

Chemical-resistant, flexible-type gloves (Viton(R), neoprene, nitrile or equal) to prevent contact. Gloves should be rinsed and removed immediately after use. Wash hands after removing gloves. Wear chemical-resistant clothing (e.g. apron, pants, coveralls) and safety footwear as appropriate.

Respiratory protection:

Respiratory protection may be necessary under certain use conditions. Under such conditions, an appropriate, properly fitted NIOSH-approved respirator must be worn. If respirators are used, a program should be instituted to assure compliance with 29 CFR 1910.34 and 42 CFR 84.

General hygiene considerations:

Facilities utilizing this material should be equipped with an eyewash station and safety shower. Thoroughly clean shoes and wash contaminated clothes before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Appearance:	Amber Liquid
Odor	Hydrocarbon
pH	Not applicable.
Boiling point	not determined
Flash point	64 deg F/ 18 deg C
Solubility in water:	Negligible
Specific Gravity:	0.866
Weight per gallon (LB/GAL) :	7.21
Evaporation rate (n-Butyl acetate = 1):	<1
Volatile by Weight (including water and exempt compounds) (%):	63
Volatile Organic Content (VOC):	541 g/L

10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions.

Incompatibility:

Oxidizing and reducing agents. Keep away from heat, sparks and open flames.

Hazardous decomposition products:

Carbon monoxide, carbon dioxide, oxides of nitrogen and other toxic organic compounds.

11. TOXICOLOGICAL INFORMATION

Toxicological evaluation of this product as a whole has not been performed.

12. ECOLOGICAL INFORMATION

Ecological evaluation of this material has not been performed; however do not allow the product to be released to the environment without governmental approval/permits.

13. DISPOSAL CONSIDERATIONS

Waste from this material may be a listed and/or characteristic hazardous waste. Dispose of material, contaminated absorbent, container and unused contents in accordance with local, state, and federal regulations.

14. TRANSPORT INFORMATION

Transportation:	This product may be reclassified as Consumer Commodity, ORM-D, when shipped by ground; packaging quantity limitations apply.
By Ground:	
DOT Hazard Class:	3
DOT Proper Shipping Name:	Paint related material (ORM-D for quart containers only)
DOT Packing Group:	II
DOT UN Number:	UN1263
By Air:	
IATA Hazard Class:	3
IATA Proper Shipping Name:	Paint related material
IATA Packing Group:	II
IATA UN Number:	UN1263
By Sea:	
IMDG Hazard Class:	3
IMDG Proper Shipping Name:	Paint related material
IMDG Packing Group:	II
IMDG UN Number:	UN1263

15. REGULATORY INFORMATION

EPA registration number: Not applicable.

Pest Registration Act number: Not applicable.

Other:

Not applicable.

Chemical Name	CAS-No.	TSCA 12B	SARA 313	TSCA	DSL	EINECS	Prop 65	Whmis
VM&P Naphtha	64742-89-8			*	*	*		*
Aliphatic Hydrocarbon (Stoddard type)	8052-41-3			*	*	*		*

Petroleum distillates, light aromatic
1,2,4-Trimethylbenzene

64742-95-6
95-63-6

* * * * *

16. OTHER INFORMATION

HMIS Health: 2* HMIS Flammability: 3 HMIS Physical Hazard: 0

NFPA Health: 2 NFPA Flammability: 3 NFPA Instability/Reactivity: 0

NOTICE: This document is generated for the purpose of distributing health, safety, and environmental data. The information on this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed, or implied, regarding correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. Kop-Coat makes no warranty with respect thereto and disclaims all liability from reliance thereon.

Key:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Service Registry Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLA RQ	CERCLA Reportable Quantity
CFR	Code of Federal Regulations
CPR	Cardiopulmonary resuscitation
DSL	Domestic Substances List of Canada
EINECS	European Inventory of Existing Chemical Substances
EPCRA	Emergency Planning and Community Right-to-know Act
EPCRA EHS	EPCRA Extremely Hazardous Substance
EPCRA TPQ	EPCRA Threshold Planning Quantity
oF	Fahrenheit degrees
g/l	Grams per liter
gal	Gallons
Group A3	Carcinogen Category - Confirmed Animal Carcinogen with Unknown Relevance to Humans
Group A4	Carcinogen Category - Not Classifiable as a Human Carcinogen
HMIS	Hazardous Materials Identification System - Chemical Rating
IARC	International Agency for Research on Cancer
lbs or LBS	Pounds
MGM3	Milligrams per cubic meter
MIR	Maximum Incremental Reactivity
MSDS	Material Safety Data Sheet
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPM	Parts per million
Proposition 65	California's Safe Drinking Water and Toxic Enforcement Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
USEPA	United States Environmental Protection Agency

VOC	Volatile Organic Compound
VOL	Volume
WT	Weight
WHMIS	Canadian Workplace Hazardous Materials Information System
UN	United Nations

ANSI KC 1.74

KOPR-KOTE®

HIGH-TEMPERATURE ANTI-SEIZE

DESCRIPTION

KOPR-KOTE® is a low-friction, anti-seize lubricant manufactured from a combination of micro-size copper flakes and graphite dispersed in a water-resistant grease and fortified with antioxidants, plus rust and corrosion inhibitors. **KOPR-KOTE** provides protection unequalled by competitive brands.

KOPR-KOTE provides a shield against metal-to-metal contact, preventing seizure and corrosion. It fills irregularities and imperfections and resists welding, hardening, or setting. **KOPR-KOTE** provides low friction and cushions impact and shock loads. Low shear between particles reduces stick-slip, allowing quick disassembly with minimum wrench torque. It will not squeeze out of the threads, gum up, or wash off.

- Not classified as marine pollutant - DOT Approval CA2004080025
- NSF Registered H2 (No. 120923)*
- Conforms to MIL-PRF-907E
- Service rating: -65°F (-54°C) to 1800°F (982°C).
- Contains no lead or zinc.
- Lowers friction; reduces wrench torque.
- Permits reuse of fittings; saves stud, bolt, and nut replacement.
- Aluminum complex base for brushability and stability over a wide temperature range.
- Not affected by contraction, expansion, or vibration.
- Will not run, drip, or settle out.
- Available in convenient aerosol form.

APPLICATIONS

KOPR-KOTE is ideal for use on threaded connections, pump housings, flanges, studs, exhaust manifold bolts, compressor heads, autoclaves, lathe centers, etc.

* Aerosol package is not NSF Registered

PRODUCT CHARACTERISTICS

Thickener	Aluminum Complex
Fluid Type	Petroleum
Dropping Point (ASTM D-566)	450°F (232°C)
Specific Gravity	1.15
Density (lb/gal)	9.6
Oil Separation (ASTM D-6184)	<3.0
Wt. % Loss @ 212°F (100°C)	
Flash Point (ASTM D-92)	>450°F (232°C)
K-Factor	.15
1" B7 Studs @ 80,000 psi Contact Stress	
Penetration @ 77°F (ASTM D-217)	310 - 330
Copper Strip Corrosion (ASTM D-4048)	1A
4-Ball (ASTM D-2596)	
Weld Point, kgf	800
Load Wear Index	125

PACKAGING

Code No.	Container Size	Container
10055	¼ lb.	Brush Top can
10002	½ lb.	Brush Top can
10004	1 lb.	Brush Top can
10007	2 lb.	Plug Top can
10041	12 oz.	Aerosol
See Aerosol Product Bulletin/MSDS		
10050	14 oz.	Cartridge
10091	1 gal.	Pail
10092	2½ gal.	Pail
10093	5 gal.	Pail

LIMITED WARRANTY

Jet-Lube, Inc. makes the Limited Express Warranty that at the date of delivery, this product shall be free from defects in Jet-Lube, Inc. materials and workmanship.

This Limited Express Warranty is expressly in lieu of any other express or implied warranties, including any implied warranty of merchantability or fitness for a particular purpose, and of any other obligation on the part of Jet-Lube, Inc.

The sole remedy for breach of the Limited Express Warranty shall be the refund of the purchase price. All other liability is negated and disclaimed, and Jet-Lube, Inc. shall not be liable for incidental or consequential damages.

CORPORATE LOCATIONS

Houston, Texas—World Headquarters

Maidenhead, England

Edmonton, Canada

JET-LUBE, INC.
4849 HOMESTEAD RD.,
P.O. BOX 21258 (77226-1258)
HOUSTON, TX 77028

WATS: 800-538-5823
PHONE: 713-674-7617
FAX: 713-678-4604
E-MAIL: sales@jetlube.com
www.jetlube.com

INDUSTRIAL

INDUSTRIAL

INDUSTRIAL

INDUSTRIAL

INDUSTRIAL

JET-LUBE, INC.

MATERIAL SAFETY DATA SHEET

Product Name: KOPR-KOTE®
Chemical Family: Petroleum based lubricating grease
Use: Tool joint and drill collar compound/anti-seize (MIL-PRF-907E)/ jacking lubricant

Manufacturer/Supplier: JET-LUBE, INC.
Address: 4849 Homestead Rd., Ste. #200
Houston, TX, 77028 USA **Phone:** 713-674-7617
Emergency Phone: 713-674-7617 **Fax:** 713-678-4604
Chemtrec 24 hours (USA): 800-424-9300

Hazardous Components	CAS No.	Wt%	OSHA PEL	ACGIH TLV	Other Limits of Exposure
Lubricating Grease	74868219	60	N/A	N/A	STEL:
Nonhazardous Blend	7782435/1317335	20-30	UN	UN	STEL: UN
	13776744/471341				STEL: UN
Metallic Copper	7440508	10	N/A	1mg/M³	STEL: 2mg/M³

Main Hazards—Health Effects

Eyes: May cause irritation. **Inhalation:** Viscous nature may block breathing passages if inhaled. **Ingestion:** May cause diarrhea.
Skin: For hypersensitive persons, may irritate the skin after prolonged periods of contact.

Eyes: Flush with water until all residual material is gone. If irritation persists, seek medical help. **Inhalation:** Clear air passage. If respiratory difficulty continues, seek medical help. **Ingestion:** Wash out mouth immediately. Consult physician. **Skin:** Wash thoroughly with hand cleanser, followed by soap & water. Contaminated clothing should be dry cleaned before reuse.

Extinguishing Media: Foam, dry powder, Halon®, carbon dioxide, sand, earth & water mist. **Unsuitable Extinguishing Media:** Water jet.
Protective Equipment for Fire fighting: Self-contained breathing apparatus.

Personal Precautions: Wear gloves & protective overalls. **Environmental Precautions:** Do not allow it to enter drains. **Spillage:** Scrape up bulk, then wipe up remainder with cloth. To prevent walking hazard, pick up remaining residue with diatomaceous earth.

Handling: No special handling precautions necessary. **Storage:** Do not store at elevated temperatures.

Respiratory Protection: None needed. **Hand Protection:** Protective gloves for hypersensitive persons.
Eye Protection: Glasses, if applied to parts in motion. **Body Protection:** Overalls.

Physical State: Semisolid paste **Color:** Copper/Bronze **Odor:** Petroleum **pH:** Neutral **Boiling Range/Point °F (°C):** <600 (316)
Melting Point °F (°C): 500 (260) **Flash Point (COC) °F (°C):** 430 (221) **Autoignition Temperature °F (°C):** >500 (260)
Explosive Properties: LEL: 0.9% UEL: 7% **Evaporation Rate (Butyl Acetate):** <0.01 **Partition Coefficient (Log Pow):** N/A
Vapor Pressure (kPa): <0.01 **Percent Volatiles:** Nil **Density (g/cm³):** 1.15 **Flammability:** Not flammable at ambient temperature.
OAR Value: N/A **Oxidizing Properties:** None **Water Solubility:** Nil **Vapor Density:** >5

Stability: Chemically stable under normal conditions. No photoreactive agents. **Conditions to Avoid:** Powerful sources of ignition & extreme temps. **Materials to Avoid:** Strong inorganic & organic acids, oxidizing & copper reactive agents. **Hazardous Decomposition Products:** Burning generates smoke, airborne soot, hydrocarbons & oxides of carbon, sulfur & nitrogen. Residue mainly comprised of soot & mineral oxides.

Acute Toxicity: Not known. **Irritancy—Skin:** Very mild. **Skin Sensitization:** Not known. **Subacute/Sub-chronic Toxicity:** Not known.
Genotoxicity: None known. **Chronic Toxicity:** None known. **California Prop 65:** N/A **Carcinogen:** NTP: No IARC: No OSHA: No
EC Classification (67/548/EEC): No **Allergens:** None known. **LC-50:** 1.98gm/l—actual test data - mysidopsis bahia. **LD-50:** N/A

Possible Effects: In extreme cases, may generate oil fractions that could act as a marine pollutant. Occurrences of this nature are highly unlikely. **Behavior:** Relatively well behaved. Bioaccumulation potential nil.

Environmental Fate: Highly unlikely to cause widespread contamination. Nontoxic to marine or land organisms.


Product Disposal: Do not incinerate. Contact waste disposal company or local authority for advice.

Container Disposal: Pails without liner—see Product Disposal section above. Pails with plastic liner—pail may only be disposed of via standard waste disposal services, recycled or reused. Liner—see Product Disposal section above.

D.O.T.: Nonhazardous D.O.T. exception CA2004080025 **UN No.:** Nonhazardous **Air Transport (ICAO & IATA):** Nonhazardous
Sea Transport (IMO & IMDG): Nonhazardous **Road & Rail Transport (ADR/RID):** Nonhazardous

Labeling Information: None needed **EC Annex 1 Classification:** Not Applicable. **R Phrases:** R22—harmful if swallowed.
S Phrases: N/A, as known. **Ozone Depleting Chemicals:** N/A **TSCA:** All components are listed. **TSCA 12B Components:** None
WHMIS (Canada): Not controlled. **Canadian DSL:** All components listed. **40 CFR Part 372 (SARA Section 313):** This product contains in part raw material components subject to reporting. **SARA 311/312:** None **CERCLA:** Nonhazardous **RCRA Hazard Class:** Nonhazardous

SDS first issued. SDS data revised. **New Jersey Right To Know:** See Section II

Signature: 
Prepared by: Donald A. Oldiges
Date Issued: October 27, 2008

As of issue date, the information contained herein is accurate and reliable to the best of JET-LUBE'S knowledge. JET-LUBE® does not warrant or guarantee its accuracy or reliability and shall not be liable for any loss or damage arising out of the use thereof. It is the user's responsibility to satisfy itself that the information offered for its consideration is suitable for its particular use.

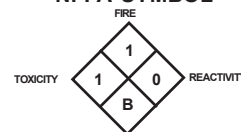
LEGEND

- | | |
|--|--------------------------------------|
| I. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY | IX. PHYSICAL AND CHEMICAL PROPERTIES |
| II. COMPOSITION INFORMATION ON INGREDIENTS | X. STABILITY AND REACTIVITY |
| III. HAZARDS IDENTIFICATION | XI. TOXICOLOGICAL INFORMATION |
| IV. FIRST AID MEASURES | XII. ECOLOGICAL INFORMATION |
| V. FIRE FIGHTING MEASURES | XIII. WASTE DISPOSAL |
| VI. ACCIDENTAL RELEASE MEASURES | XIV. TRANSPORT INFORMATION |
| VII. HANDLING AND STORAGE | XV. REGULATORY INFORMATION |
| VIII. EXPOSURE CONTROL/PERSONAL PROTECTION | XVI. OTHER INFORMATION |

HMIS SYMBOL

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0
PPI	B

NFPA SYMBOL



MATERIAL SAFETY DATA SHEET

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: KRUD KUTTER® Gloss-Off

Synonyms: Not applicable

Molecular Formula: Not applicable

Molecular Weight: Not applicable

Supplier:

Supreme Chemicals of Georgia, Inc.

1535 Oak Industrial Lane, Suite B

Cumming, GA 30041

USA

Intended Use: Multi-Purpose Cleaning Agent

Emergency Telephone:

(CHEMTREC) 800-424-9300

(Non-emergency Telephone) 800- 466-7126

2 HAZARDS IDENTIFICATION

Emergency Overview

Physical State: Liquid

Color: Clear

Odor: Mild

Low hazard for usual industrial, commercial or consumer handling practices.

Potential Health Effects

Inhalation: Expected to be a low inhalation hazard.

Eye Contact: May cause transient irritation.

Skin Contact: May cause mild skin irritation in sensitive individuals. Exposure may cause transient redness, itching, and inflammation of skin.

Ingestion: Not expected to be an ingestion hazard with product use.

Chronic Health Effects: None known

Target Organ(s): Skin

OSHA Regulatory Status: Nonhazardous

3 COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No.	Weight %
Krud Kutter® Gloss-Off Formulation	proprietary	100

4 FIRST AID MEASURES

Inhalation: If symptomatic, move to fresh air. Get medical attention if symptoms persist.

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. Get medical attention.

Skin Contact: Wash with soap and water. Get medical attention if symptoms occur.

Ingestion: If swallowed, DO NOT induce vomiting, unless directed by medical personnel. Get medical attention.

5 FIRE-FIGHTING MEASURES

Extinguishing Media: Water spray, dry chemical, carbon dioxide and alcohol foam

Unsuitable Extinguishing Media: Not applicable

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and protective clothing.

Unusual Fire & Explosion Hazards: None known

Hazardous Combustion Products: Carbon oxides

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate personal protective equipment. See Section 8.

Spill Cleanup Methods: Small Liquid Spills: Wipe up or use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Large Spillages: Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas.

7 HANDLING AND STORAGE

Handling: No special precautionary health measures should be needed under anticipated conditions of use. Wash thoroughly after handling.

Prevention of Fire and Explosion: None

Storage: Keep container closed. Store in original container. Keep out of reach of children.

8	EXPOSURE CONTROLS / PERSONAL PROTECTION
----------	--

Industrial Exposures:**Exposure Limits:** None

Engineering Controls: Not generally required when handling product. 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.

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. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Eye Protection: Wear splash goggles and a face shield where a splash hazard exists.

Hand Protection: Wear chemical-resistant gloves. Contact health and safety professionals for additional information.

Skin Protection: Wear protective clothing appropriate for the risk of exposure.

Hygiene Measures: Eye wash, washing facilities

9	PHYSICAL AND CHEMICAL PROPERTIES
----------	---

Color: Clear

Odor: Mild

Physical State: Liquid

pH: < 12

Boiling Point: 100 °C (212° F)

Flash Point: Non-flammable

Evaporation Rate: < 1 (Water = 1)

Flammability: Nonflammable

Flammability Limit – Upper (%): No data available

Flammability Limit – Lower (%): No data available

Vapor Pressure: 17 mm Hg (@ 20 °C) (68° F)

Vapor Density (Air=1): > 1

Specific Gravity: 1

Solubility in Water: Complete

Partition Coefficient (n-Octanol/water): No data available

Autoignition Temperature: No data available

Decomposition Temperature: No data available

Volatile Organic Compounds (VOC): No data available

Viscosity: Like that of water

Percent Volatile: No data available

10 STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None known

Incompatible Materials: Strong oxidizing agents, strong acids

Hazardous Decomposition Products: Carbon oxides, nitrogen oxides

Possibility of Hazardous Reactions: Will not occur.

11 TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical Name	Test Results
Krud Kutter Gloss-Off Formulation	Oral LD ₅₀ (Rat-female): > 5,000 mg/kg All animals survived following the administration of the test substance. Eye Irritation (Species not specified): MMTS Score: 21.0 (MMTS: The Maximum Mean Total Score) Mildly irritating. Irritation still present at the end of the study (72 hours). Skin Irritation (Species not specified): Primary Dermal Irritation Index (PDII): 21.0 Slightly irritating. Irritation cleared by 48 hours.

Listed Carcinogens: None

12 ECOLOGICAL INFORMATION

Krud Kutter® Gloss-Off formulation is non-toxic and biodegradable.

13 DISPOSAL CONSIDERATIONS

General Information: Dispose in accordance with applicable federal, state, and local regulations.

Disposal Methods: No specific disposal method required.

Container: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14 TRANSPORT INFORMATION

DOT: Not regulated

TDG: Not regulated

IATA: Not regulated

IMDG: Not regulated

15 REGULATORY INFORMATION

Canadian Controlled Products Regulations: This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS contains all required information.

WHMIS Classification: Noncontrolled

Inventory Status

This product or all components are listed on the following inventory: TSCA, DSL

US Regulations

CERCLA Hazardous Substance List (40 CFR 302.4): None

SARA Title III

Section 302Extremely Hazardous Substance (40 CFR 355, Appendix A): None

Section 311/312 (40 CFR 370): None

Section 313 Toxic Release Inventory (40 CFR 372): None

Clean Air Act (CCA) Section 112, 1990 Amendments, Statutory Hazardous Air Pollutants: None

Clean Air Act (CAA) Section 112(i) High-Risk Hazardous Air Pollutants (40 CFR 63.74): None

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): None

Clean Water Act Section 307 Toxic Pollutants (40 CFR 401.15): None

Clean Water Act Section 311 Hazardous Chemical (40 CFR 116.4): None

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): None

Drug Enforcement Act: None

TSCA: None

EPA: Toxicity Class IV: Contains an additive which eliminates the spores that create mildew and other fungus.

State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): None

Massachusetts Right-To-Know List: None

New Jersey Right-To-Know List: None

16 OTHER INFORMATION**Hazard Ratings**

	Health Hazard	Fire Hazard	Reactivity Hazard	Special Hazard
NFPA	1	0	0	None

	Health Hazard	Fire Hazard	Reactivity Hazard
HMIS	1	0	0

0 – Minimal; 1 – Slight; 2 – Moderate; 3 – Serious; 4 – Severe; *- Chronic health effect

Revision Information: Revised all sections of the MSDS based on new toxicity data.

Prepared by: Supreme Chemicals of Georgia, Inc.

Issue Date: 09/28/06

Supersedes Date: 02/24/06

Disclaimer: 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

1306
01 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER	HMIS CODES
1306	Health 2 Flammability 4 Reactivity 0

PRODUCT NAME KRYLON* Workable Fixitif Spray Coating MANUFACTURER'S NAME THE SHERWIN-WILLIAMS COMPANY KRYLON Products Group Cleveland, OH 44115	EMERGENCY TELEPHONE NO. (216) 566-2917 INFORMATION TELEPHONE NO. (800) 832-2541
---	--

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
13	74-98-6	Propane		
		ACGIH TLV	2500 ppm	760 mm
		OSHA PEL	1000 ppm	
12	106-97-8	Butane		
		ACGIH TLV	800 ppm	760 mm
		OSHA PEL	800 ppm	
2	67-63-0	2-Propanol		
		ACGIH TLV	400 ppm	33 mm
		ACGIH TLV	500 ppm STEL	
		OSHA PEL	400 ppm	
		OSHA PEL	500 ppm STEL	
2	111-76-2	2-Butoxyethanol		
		ACGIH TLV	20 ppm	0.88 mm
		OSHA PEL	25 ppm	
57	67-64-1	Acetone		
		ACGIH TLV	500 ppm	180 mm
		ACGIH TLV	750 ppm STEL	
		OSHA PEL	1000 ppm	
10	108-65-6	1-Methoxy-2-Propanol Acetate		
		ACGIH TLV	Not Available	1.8 mm
		OSHA PEL	Not Available	

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.

Continued on page 2

=====

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 LEL UEL
Propellant < 0 F 1.1 13.1

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

Continued on page 3

=====

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.

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.

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	6.11 lb/gal	732 g/l
SPECIFIC GRAVITY	0.74	
BOILING POINT	<0 - 343 F	<-18 - 172 C
MELTING POINT	Not Available	
VOLATILE VOLUME	97 %	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	7.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)		
Volatile Weight 38.22 %	Less Water and Federally Exempt Solvents	

Continued on page 4

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

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary and blood forming systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

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
67-63-0	2-Propanol	LC50	RAT	4HR	Not Available
		LD50	RAT		5045 mg/kg
111-76-2	2-Butoxyethanol	LC50	RAT	4HR	Not Available
		LD50	RAT		470 mg/kg
67-64-1	Acetone	LC50	RAT	4HR	Not Available
		LD50	RAT		5800 mg/kg
108-65-6	1-Methoxy-2-Propanol Acetate	LC50	RAT	4HR	Not Available
		LD50	RAT		8500 mg/kg

Section 12 -- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

Continued on page 5

=====
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
=====

No data available.

=====

Section 15 -- REGULATORY INFORMATION
=====

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
	Glycol Ethers	2	

=====

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

1311

Section 1. Identification

Product name : KRYLON® Matte Finish Spray Coating
Product code : 1311
Other means of identification : Not available.
Product type : Aerosol.
Relevant identified uses of the substance or mixture and uses advised against
Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

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
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (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: 13.7%

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. 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. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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. Pressurized container: Do not pierce or burn, even after use.
Response	: Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep 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 and wash it 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

Ingredient name	% by weight	CAS number
Acetone	≥25 - <50	67-64-1
Toluene	≥25 - <27	108-88-3
Propane	≥10 - <25	74-98-6
Butane	≥10 - <25	106-97-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 3. Composition/information on ingredients

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 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.

Over-exposure signs/symptoms

- 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

Section 4. First aid measures

- 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.

- 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

Section 6. Accidental release measures

- 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.
- 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, 3/2015). TWA: 250 ppm 8 hours. STEL: 500 ppm 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.
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, 3/2015). TWA: 20 ppm 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.
Butane	NIOSH REL (United States, 10/2013). TWA: 800 ppm 10 hours. TWA: 1900 mg/m ³ 10 hours. ACGIH TLV (United States, 3/2015). STEL: 1000 ppm 15 minutes.

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

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. 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	: 0.72
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)
Molecular weight	: Not applicable.
<u>Aerosol product</u>	
Type of aerosol	: Spray
Heat of combustion	: 30.61 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

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	-
Toluene	Skin - Mild irritant	Rabbit	-	395 milligrams	-
	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	-

Sensitization

Not available.

Mutagenicity

Section 11. Toxicological information

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-

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
Toluene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	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
Toluene	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Butane	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.

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** : No known significant effects or critical hazards.
- 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	2035.9 mg/kg

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
	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

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Toluene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Toluene	-	90	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.
Additional information	<u>Special provisions</u> LIMITED QUANTITY <u>ERG No.</u> 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2). <u>Special provisions</u> LIMITED QUANTITY <u>ERG No.</u> 126	<u>Special provisions</u> (ERG#126) <u>ERG No.</u> 126	<u>Special provisions</u> LIMITED QUANTITY	<u>Emergency schedules (EmS)</u> 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.

Proper shipping name : Not available.
Ship type : Not available.
Pollution category : Not available.

Section 15. Regulatory information

[SARA 313](#)

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

[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	4
Physical hazards	0

The customer is responsible for determining the PPE code for this material.

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.

[Procedure used to derive the classification](#)

Classification

Flam. Aerosol 1, H222
Press. Gas Comp. Gas, H280
Skin Irrit. 2, H315
Eye Irrit. 2A, H319
Repr. 2, H361 (Unborn child)
STOT SE 3, H335
STOT SE 3, H336
STOT RE 2, H373
Asp. Tox. 1, H304

Justification

On basis of test data
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

[History](#)

Date of printing : 11/28/2015

Date of issue/Date of revision : 11/28/2015

Date of previous issue : 3/13/2015

Version : 1.01

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

[Notice to reader](#)

Section 16. Other information

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. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. 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

52001
10 00

DATE OF PREPARATION
Mar 11, 2009

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

52001

PRODUCT NAME

KRYLON® Indoor/Outdoor Paint, Hunter Green

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 832-2541
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
17	74-98-6	Propane		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
8	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
12	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
15	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 PPM (Skin)	
		OSHA PEL	150 PPM (Skin) STEL	
1	64742-95-6	Light Aromatic Hydrocarbons		
		ACGIH TLV	Not Available	3.8 mm
		OSHA PEL	Not Available	
2	95-63-6	1,2,4-Trimethylbenzene		
		ACGIH TLV	25 PPM	2.03 mm
		OSHA PEL	25 PPM	
30	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
0.5	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.

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 solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, cardiovascular and reproductive systems.

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

0.7

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	6.15 lb/gal	736 g/l
SPECIFIC GRAVITY	0.74	
BOILING POINT	<0 - 360 °F	<-18 - 182 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	91%	
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 56.07%	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 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
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
64742-95-6	Light Aromatic Hydrocarbons	LC50 RAT LD50 RAT	4HR	Not Available Not Available
95-63-6	1,2,4-Trimethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available Not Available
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

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**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

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	15	
95-63-6	1,2,4-Trimethylbenzene	2	

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.

2116
01 00

MATERIAL SAFETY DATA SHEET

464727 Part# 2116
KRYLON OSHA RED #2116
1466 KRYLON/SHERWIN WILLIAMS CO.
Buyer: Bernard W. Aubuchon Jr.

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

2116

HMIS CODES

Health 2*
Flammability 4
Reactivity 0

PRODUCT NAME

KRYLON* OSHA Colors, Safety Red

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY

KRYLON Products Group

Cleveland, OH 44115

DATE OF PREPARATION

12-AUG-03

EMERGENCY TELEPHONE NO.

(216) 566-2917

INFORMATION TELEPHONE NO.

(800) 832-2541

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
14	74-98-6	Propane		
		ACGIH TLV	2500 ppm	760 mm
		OSHA PEL	1000 ppm	
6	106-97-8	Butane		760 mm
		ACGIH TLV	800 ppm	
		OSHA PEL	800 ppm	
1	100-41-4	Ethylbenzene		7.1 mm
		ACGIH TLV	100 ppm	
		ACGIH TLV	125 ppm STEL	
		OSHA PEL	100 ppm	
		OSHA PEL	125 ppm STEL	
8	1330-20-7	Xylene		5.9 mm
		ACGIH TLV	100 ppm	
		ACGIH TLV	150 ppm STEL	
		OSHA PEL	100 ppm	
		OSHA PEL	150 ppm STEL	
39	67-64-1	Acetone		180 mm
		ACGIH TLV	500 ppm	
		ACGIH TLV	750 ppm STEL	
		OSHA PEL	1000 ppm	
8	78-93-3	Methyl Ethyl Ketone		70 mm
		ACGIH TLV	200 ppm	
		ACGIH TLV	300 ppm STEL	
		OSHA PEL	200 ppm	
		OSHA PEL	300 ppm STEL	
4	108-10-1	Methyl Isobutyl Ketone		16 mm
		ACGIH TLV	50 ppm	
		ACGIH TLV	75 ppm STEL	
		OSHA PEL	50 ppm	
		OSHA PEL	75 ppm STEL	
7	108-65-6	1-Methoxy-2-Propanol Acetate		1.8 mm
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	

Continued on page 2

=====
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.

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

13.1

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).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other 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 more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

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 6.36 lb/gal 762 g/l
SPECIFIC GRAVITY 0.77
BOILING POINT <0 - 302 F <-18 - 150 C
MELTING POINT Not Available
VOLATILE VOLUME 92 %
EVAPORATION RATE Faster than ether
VAPOR DENSITY Heavier than air
SOLUBILITY IN WATER N.A.
pH 7.0

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)

Volatile Weight 49.04 % 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

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.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, blood forming and reproductive systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

===== 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
100-41-4	Ethylbenzene	LC50	RAT	4HR	Not Available
		LD50	RAT		3500 mg/kg
1330-20-7	Xylene	LC50	RAT	4HR	5000 ppm
		LD50	RAT		4300 mg/kg
67-64-1	Acetone	LC50	RAT	4HR	Not Available
		LD50	RAT		5800 mg/kg
78-93-3	Methyl Ethyl Ketone	LC50	RAT	4HR	Not Available
		LD50	RAT		2740 mg/kg
108-10-1	Methyl Isobutyl Ketone	LC50	RAT	4HR	Not Available
		LD50	RAT		2080 mg/kg
108-65-6	1-Methoxy-2-Propanol Acetate	LC50	RAT	4HR	Not Available
		LD50	RAT		8500 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 =====

No data available.

===== 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	
78-93-3	Methyl Ethyl Ketone	8	
108-10-1	Methyl Isobutyl Ketone	4	

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 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

2602
03 00

DATE OF PREPARATION
Aug 28, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

2602

PRODUCT NAME

KRYLON H2O™ Latex Aerosol Paint, Yellow Sea

MANUFACTURER'S NAME

Krylon Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3268 www.krylon.com
Regulatory Information	(216) 566-2902
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
5	67-63-0	2-Propanol		
		ACGIH TLV	200 PPM	33 mm
		ACGIH TLV	400 PPM STEL	
		OSHA PEL	400 PPM	
4	112-34-5	2-(2-Butoxyethoxy)-ethanol		
		ACGIH TLV	Not Available	0.06 mm
		OSHA PEL	Not Available	
35	115-10-6	Dimethyl Ether		
		ACGIH TLV	Not Available	760 mm
		OSHA PEL	Not Available	
3	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.

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	2
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 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

27.0

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) 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	7.21 lb/gal	863 g/l
SPECIFIC GRAVITY	0.87	
BOILING POINT	<0 - 448 °F	<-18 - 231 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	86%	
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 47.54%	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			
67-63-0	2-Propanol	LC50 RAT	4HR	Not Available
		LD50 RAT		5045 mg/kg
112-34-5	2-(2-Butoxyethoxy)-ethanol	LC50 RAT	4HR	Not Available
		LD50 RAT		5660 mg/kg
115-10-6	Dimethyl Ether	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 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
	Glycol Ethers	4	

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

2603
02 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

2603

HMIS CODES

Health	2
Flammability	4
Reactivity	0

PRODUCT NAME

KRYLON* H2O Latex Aerosol Paint, Amazon River Green

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON Products Group
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION

22-JAN-05

INFORMATION TELEPHONE NO.
(800) 832-2541

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
5	67-63-0	2-Propanol		
		ACGIH TLV	400 ppm	33 mm
		ACGIH TLV	500 ppm STEL	
		OSHA PEL	400 ppm	
		OSHA PEL	500 ppm STEL	
6	111-76-2	2-Butoxyethanol		
		ACGIH TLV	20 ppm	0.88 mm
		OSHA PEL	25 ppm	
35	115-10-6	Dimethyl Ether		
		ACGIH TLV	Not Available	760 mm
		OSHA PEL	Not Available	

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.

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.

Continued on page 2

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	LEL	UEL
Propellant < 0 F	1.1	27.0

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) 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.

Continued on page 3

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).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other 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 more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

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	7.04 lb/gal	844 g/l
SPECIFIC GRAVITY	0.85	
BOILING POINT	<0 - 343 F	<-18 - 172 C
MELTING POINT	Not Available	
VOLATILE VOLUME	85 %	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	9.1	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)		
Volatile Weight 48.03 %	Less Water and Federally Exempt Solvents	

Continued on page 4

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

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary and blood forming systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

CAS No.	Ingredient Name				
67-63-0	2-Propanol	LC50	RAT	4HR	Not Available
		LD50	RAT		5045 mg/kg
111-76-2	2-Butoxyethanol	LC50	RAT	4HR	Not Available
		LD50	RAT		470 mg/kg
115-10-6	Dimethyl Ether	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

No data available.

Continued on page 5

=====
Section 15 -- REGULATORY INFORMATION
=====

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
	Glycol Ethers	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

2606
04 00

DATE OF PREPARATION
Sep 22, 2008

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

2606

PRODUCT NAME

KRYLON H2O™ Latex Aerosol Paint, Arctic White

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 832-2541
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
5	67-63-0	2-Propanol		
		ACGIH TLV	200 PPM	33 mm
		ACGIH TLV	400 PPM STEL	
		OSHA PEL	400 PPM	
5	111-76-2	2-Butoxyethanol		
		ACGIH TLV	20 PPM	0.88 mm
		OSHA PEL	25 PPM	
35	115-10-6	Dimethyl Ether		
		ACGIH TLV	Not Available	760 mm
		OSHA PEL	Not Available	
9	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 solvent ingredients in Section 2 may cause adverse effects to the liver, urinary and blood forming systems.

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	2
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 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

1.1

UEL

27.0

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) 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	7.41 lb/gal	887 g/l
SPECIFIC GRAVITY	0.89	
BOILING POINT	<0 - 343° F	<-18 - 172° C
MELTING POINT	Not Available	
VOLATILE VOLUME	87%	
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 46.76%

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			
67-63-0	2-Propanol	LC50 RAT	4HR	Not Available
		LD50 RAT		5045 mg/kg
111-76-2	2-Butoxyethanol	LC50 RAT	4HR	Not Available
		LD50 RAT		470 mg/kg
115-10-6	Dimethyl Ether	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

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

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
	Glycol Ethers	5	

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

2608
03 00

DATE OF PREPARATION
Aug 28, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

2608

PRODUCT NAME

KRYLON H2O™ Latex Aerosol Paint, Java Sea Brown

MANUFACTURER'S NAME

Krylon Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3268 www.krylon.com
Regulatory Information	(216) 566-2902
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
5	67-63-0	2-Propanol		
		ACGIH TLV	200 PPM	33 mm
		ACGIH TLV	400 PPM STEL	
		OSHA PEL	400 PPM	
4	112-34-5	2-(2-Butoxyethoxy)-ethanol		
		ACGIH TLV	Not Available	0.06 mm
		OSHA PEL	Not Available	
35	115-10-6	Dimethyl Ether		
		ACGIH TLV	Not Available	760 mm
		OSHA PEL	Not Available	
0.3	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	
0.1	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.

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.

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	2
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 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

27.0

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) 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	7.07 lb/gal	847 g/l
SPECIFIC GRAVITY	0.85	
BOILING POINT	<0 - 448 °F	<-18 - 231 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	86%	
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 47.07%	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."

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			
67-63-0	2-Propanol	LC50 RAT	4HR	Not Available
		LD50 RAT		5045 mg/kg
112-34-5	2-(2-Butoxyethoxy)-ethanol	LC50 RAT	4HR	Not Available
		LD50 RAT		5660 mg/kg
115-10-6	Dimethyl Ether	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
13463-67-7	Titanium Dioxide	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
1333-86-4	Carbon Black	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 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
	Glycol Ethers	4	

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

3106
01 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

3106

HMIS CODES

Health	2*
Flammability	4
Reactivity	0

PRODUCT NAME

KRYLON* Fluorescent Indoor/Outdoor Paint, Green

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY

KRYLON Products Group

Cleveland, OH 44115

EMERGENCY TELEPHONE NO.

(216) 566-2917

DATE OF PREPARATION

06-SEP-04

INFORMATION TELEPHONE NO.

(800) 832-2541

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
13	74-98-6	Propane		
		ACGIH TLV 2500 ppm		760 mm
		OSHA PEL 1000 ppm		
12	106-97-8	Butane		
		ACGIH TLV 800 ppm		760 mm
		OSHA PEL 800 ppm		
1	110-54-3	Hexane		
		ACGIH TLV 50 ppm		127 mm
		OSHA PEL 50 ppm		
9	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV 300 ppm		12 mm
		OSHA PEL 300 ppm		
		OSHA PEL 400 ppm STEL		
1	108-88-3	Toluene		
		ACGIH TLV 50 ppm (Skin)		22 mm
		OSHA PEL 100 ppm (Skin)		
		OSHA PEL 150 ppm (Skin) STEL		
2	100-41-4	Ethylbenzene		
		ACGIH TLV 100 ppm		7.1 mm
		ACGIH TLV 125 ppm STEL		
		OSHA PEL 100 ppm		
		OSHA PEL 125 ppm STEL		
12	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		
15	67-64-1	Acetone		
		ACGIH TLV 500 ppm		180 mm
		ACGIH TLV 750 ppm STEL		
		OSHA PEL 1000 ppm		

Continued on page 2

```
=====
17          471-34-1  Calcium Carbonate
                   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.

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

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).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other 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 more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

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.

Continued on page 4

=====

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 6.98 lb/gal 835 g/l
SPECIFIC GRAVITY 0.84
BOILING POINT <0 - 325 F <-18 - 162 C
MELTING POINT Not Available
VOLATILE VOLUME 82 %
EVAPORATION RATE Faster than ether
VAPOR DENSITY Heavier than air
SOLUBILITY IN WATER N.A.
pH 7.0
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)
Volatile Weight 51.15 % 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

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.

Prolonged and repeated exposure to Hexane may cause damage to nerve tissue of the arms and legs (peripheral neuropathy), resulting in muscular weakness and loss of sensation. This effect may be increased by the presence of Methyl Ethyl Ketone.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, cardiovascular and reproductive systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

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
110-54-3	Hexane	LC50	RAT	4HR	Not Available
		LD50	RAT		28700 mg/kg
64742-89-8	V. M. & P. Naphtha	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
108-88-3	Toluene	LC50	RAT	4HR	4000 ppm
		LD50	RAT		5000 mg/kg
100-41-4	Ethylbenzene	LC50	RAT	4HR	Not Available
		LD50	RAT		3500 mg/kg
1330-20-7	Xylene	LC50	RAT	4HR	5000 ppm
		LD50	RAT		4300 mg/kg
67-64-1	Acetone	LC50	RAT	4HR	Not Available
		LD50	RAT		5800 mg/kg
471-34-1	Calcium Carbonate	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available

Continued on page 6

=====
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
=====

No data available.

=====
Section 15 -- REGULATORY INFORMATION
=====

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
110-54-3	Hexane	1	
108-88-3	Toluene	1	
100-41-4	Ethylbenzene	2	
1330-20-7	Xylene	12	

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

3800
01 00

DATE OF PREPARATION
May 21, 2014

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

3800

PRODUCT NAME

Glitter Blast™ Clear Sealer

MANUFACTURER'S NAME

Krylon Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 457-9566 www.krylon.com
Regulatory Information	(216) 566-2902
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
13	74-98-6	Propane	ACGIH TLV OSHA PEL 1000 PPM 1000 PPM	760 mm
12	106-97-8	Butane	ACGIH TLV OSHA PEL 1000 PPM 800 PPM	760 mm
4	110-54-3	Hexane	ACGIH TLV OSHA PEL 50 PPM 50 PPM	127 mm
2	107-83-5	2-Methylpentane	ACGIH TLV OSHA PEL Not Available Not Available	211 mm
11	142-82-5	Heptane	ACGIH TLV ACGIH TLV OSHA PEL OSHA PEL 400 PPM 500 PPM STEL 400 PPM 500 PPM STEL	50 mm
21	64742-88-7	Med. Aliphatic Hydrocarbon Solvent	ACGIH TLV OSHA PEL Not Available Not Available	2 mm
1	64742-94-5	Medium Aromatic Hydrocarbons	ACGIH TLV OSHA PEL Not Available Not Available	0.12 mm
0.2	91-20-3	Naphthalene	ACGIH TLV ACGIH TLV OSHA PEL OSHA PEL 10 PPM 15 PPM STEL 10 PPM 15 PPM STEL	1 mm
15	67-63-0	2-Propanol	ACGIH TLV ACGIH TLV OSHA PEL 200 PPM 400 PPM STEL 400 PPM	33 mm

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	4
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 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

0.8

UEL

12.7

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	5.94 lb/gal	712 g/l
SPECIFIC GRAVITY	0.72	
BOILING POINT	<0 - 425 °F	<-18 - 218 °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 83.00%	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**

Prolonged and repeated exposure to Hexane may cause damage to nerve tissue of the arms and legs (peripheral neuropathy), resulting in muscular weakness and loss of sensation. This effect may be increased by the presence of Methyl Ethyl Ketone.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Naphthalene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals.

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
110-54-3	Hexane	LC50 RAT LD50 RAT	4HR	Not Available 28700 mg/kg
107-83-5	2-Methylpentane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
142-82-5	Heptane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
64742-88-7	Med. Aliphatic Hydrocarbon Solvent	LC50 RAT LD50 RAT	4HR	Not Available Not Available
64742-94-5	Medium Aromatic Hydrocarbons	LC50 RAT LD50 RAT	4HR	Not Available Not Available
91-20-3	Naphthalene	LC50 RAT LD50 RAT	4HR	Not Available Not Available
67-63-0	2-Propanol	LC50 RAT LD50 RAT	4HR	Not Available 5045 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
110-54-3	Hexane	4	
91-20-3	Naphthalene	0.1	

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

7010
02 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER	DATE OF PREPARATION	HMIS CODES
7010	10-FEB-08	Health 2* Flammability 4 Reactivity 0

PRODUCT NAME
KRYLON® All Purpose Spray Adhesive

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
KRYLON Products Group
Cleveland, OH 44115

TELEPHONE NUMBERS and WEBSITES

Product Information (800) 832-2541	
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 WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
13	74-98-6	Propane		
		ACGIH TLV	2500 ppm	760 mm
		OSHA PEL	1000 ppm	
12	106-97-8	Butane		
		ACGIH TLV	800 ppm	760 mm
		OSHA PEL	800 ppm	
35	110-54-3	Hexane		
		ACGIH TLV	50 ppm	127 mm
		OSHA PEL	50 ppm	
4	108-88-3	Toluene		
		ACGIH TLV	20 ppm	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
20	67-64-1	Acetone		
		ACGIH TLV	500 ppm	180 mm
		ACGIH TLV	750 ppm STEL	
		OSHA PEL	1000 ppm	

Section 3 -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE
 INHALATION of vapor or spray mist.
 EYE or SKIN contact with the product, vapor or spray mist.

Continued on page 2

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 solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, cardiovascular and reproductive systems.

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	LEL	UEL
Propellant < 0 F	1.0	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.

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.

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	5.77 lb/gal	691 g/l
SPECIFIC GRAVITY	0.69	
BOILING POINT	<0 - 238 F	<-18 - 114 C
MELTING POINT	Not Available	
VOLATILE VOLUME	88 %	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
Volatile Weight	63.50%	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

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
 Prolonged and repeated exposure to Hexane may cause damage to nerve tissue of the arms and legs (peripheral neuropathy), resulting in muscular weakness and loss of sensation. This effect may be increased by the presence of Methyl Ethyl Ketone.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

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
110-54-3	Hexane	LC50	RAT	4HR	Not Available
		LD50	RAT		28700 mg/kg
108-88-3	Toluene	LC50	RAT	4HR	4000 ppm
		LD50	RAT		5000 mg/kg
67-64-1	Acetone	LC50	RAT	4HR	Not Available
		LD50	RAT		5800 mg/kg

Continued on page 5

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

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

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
110-54-3	Hexane	35	
108-88-3	Toluene	4	

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.

Continued on page 6

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

K08313
03 00

DATE OF PREPARATION
Dec 26, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

K08313

PRODUCT NAME

KRYLON® LINE-UP™ Athletic Striping Paint (Water-Based), Navy

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON PRODUCTS GROUP
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3266 www.kpg-industrial.com
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	
8	110-54-3	Hexane		
		ACGIH TLV	50 PPM	127 mm
		OSHA PEL	50 PPM	
3	107-83-5	2-Methylpentane		
		ACGIH TLV	Not Available	211 mm
		OSHA PEL	Not Available	
1	96-14-0	3-Methylpentane		
		ACGIH TLV	500 PPM	211 mm
		OSHA PEL	Not Available	
1	79-29-8	2,3-Dimethylbutane		
		ACGIH TLV	Not Available	230 mm
		OSHA PEL	Not Available	
6	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
11	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
0.2	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
1	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	
4	14807-96-6	Talc		
		ACGIH TLV	2 mg/m3 as Resp. Dust	
		OSHA PEL	2 mg/m3 as Resp. Dust	
7	1317-65-3	Calcium Carbonate		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	15 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	
0.2	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 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.

HMIS Codes

Health	2*
Flammability	2
Reactivity	0

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

9.5

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) 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	7.10 lb/gal	851 g/l
SPECIFIC GRAVITY	0.85	
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	Not Available	
pH	7.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
	Volatile Weight 48.24%	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

Prolonged and repeated exposure to Hexane may cause damage to nerve tissue of the arms and legs (peripheral neuropathy), resulting in muscular weakness and loss of sensation. This effect may be increased by the presence of Methyl Ethyl Ketone.

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
110-54-3	Hexane	LC50 RAT LD50 RAT	4HR	Not Available 28700 mg/kg
107-83-5	2-Methylpentane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
96-14-0	3-Methylpentane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
79-29-8	2,3-Dimethylbutane	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
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
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
14807-96-6	Talc	LC50 RAT LD50 RAT	4HR	Not Available Not Available
1317-65-3	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
110-54-3	Hexane	8	
108-88-3	Toluene	11	
100-41-4	Ethylbenzene	0.2	
1330-20-7	Xylene	1	

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

51301
05 00

DATE OF PREPARATION
Apr 3, 2010

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

51301

PRODUCT NAME

KRYLON® Acrylic Crystal Clear, Crystal Clear Acrylic Gloss

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 832-2541
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	
17	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
3	64742-94-5	Medium Aromatic Hydrocarbons		
		ACGIH TLV	Not Available	0.12 mm
		OSHA PEL	Not Available	
0.4	91-20-3	Naphthalene		
		ACGIH TLV	10 PPM	1 mm
		ACGIH TLV	15 PPM STEL	
		OSHA PEL	10 PPM	
		OSHA PEL	15 PPM STEL	
41	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
4	763-69-9	Ethyl 3-Ethoxypropionate		
		ACGIH TLV	Not Available	1.11 mm
		OSHA PEL	Not Available	

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	2*
Flammability	4
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 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

0.8

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	6.07 lb/gal	727 g/l
SPECIFIC GRAVITY	0.73	
BOILING POINT	<0 - 415 °F	<-18 - 212 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	94%	
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 50.84%	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.

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
64742-94-5	Medium Aromatic Hydrocarbons	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
91-20-3	Naphthalene	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
67-64-1	Acetone	LC50 RAT	4HR	Not Available
		LD50 RAT		5800 mg/kg
763-69-9	Ethyl 3-Ethoxypropionate	LC50 RAT	4HR	Not Available
		LD50 RAT		5000 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

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)

SECTION 15 — REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	17	
91-20-3	Naphthalene	0.3	

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.

MATERIAL SAFETY DATA SHEET

51806
12 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

51806

PRODUCT NAME

KRYLON® Indoor/Outdoor Paint, Sun Yellow

MANUFACTURER'S NAME

Krylon Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3268 www.krylon.com
Regulatory Information	(216) 566-2902
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
17	74-98-6	Propane		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
8	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
11	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
15	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
1	64742-95-6	Light Aromatic Hydrocarbons		
		ACGIH TLV	Not Available	3.8 mm
		OSHA PEL	Not Available	
2	95-63-6	1,2,4-Trimethylbenzene		
		ACGIH TLV	25 PPM	2.03 mm
		OSHA PEL	25 PPM	
30	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
1	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.

HMIS Codes

Health	2*
Flammability	4
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 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 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

0.7

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	6.18 lb/gal	740 g/l
SPECIFIC GRAVITY	0.74	
BOILING POINT	<0 - 360 °F	<-18 - 182 °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 55.37%	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 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
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
64742-95-6	Light Aromatic Hydrocarbons	LC50 RAT LD50 RAT	4HR	Not Available Not Available
95-63-6	1,2,4-Trimethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available Not Available
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

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
108-88-3	Toluene	15	
95-63-6	1,2,4-Trimethylbenzene	2	

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

51910
08 00

DATE OF PREPARATION
Feb 10, 2011

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

51910

PRODUCT NAME

KRYLON® Indoor/Outdoor Paint, True Blue

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 832-2541
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
17	74-98-6	Propane		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
8	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
12	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
15	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
1	64742-95-6	Light Aromatic Hydrocarbons		
		ACGIH TLV	Not Available	3.8 mm
		OSHA PEL	Not Available	
2	95-63-6	1,2,4-Trimethylbenzene		
		ACGIH TLV	25 PPM	2.03 mm
		OSHA PEL	25 PPM	
30	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
0.8	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.

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 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

0.7

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	6.14 lb/gal	735 g/l
SPECIFIC GRAVITY	0.74	
BOILING POINT	<0 - 360 °F	<-18 - 182 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	91%	
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 56.13%	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 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
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
64742-95-6	Light Aromatic Hydrocarbons	LC50 RAT LD50 RAT	4HR	Not Available Not Available
95-63-6	1,2,4-Trimethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available Not Available
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

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	15	
95-63-6	1,2,4-Trimethylbenzene	2	

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

51913
02 00

DATE OF PREPARATION
Mar 1, 2013

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

51913

PRODUCT NAME

KRYLON® ColorMaster™ with Covermax™ Technology, Gloss Purple

MANUFACTURER'S NAME

Krylon Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3268 www.krylon.com
Regulatory Information	(216) 566-2902
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	1000 PPM	760 mm
		OSHA PEL	1000 PPM	
13	106-97-8	Butane		
		ACGIH TLV	1000 PPM	760 mm
		OSHA PEL	800 PPM	
17	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
0.1	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
35	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
2	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	
0.1	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.

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	2*
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 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	6.23 lb/gal	746 g/l
SPECIFIC GRAVITY	0.75	
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	Not Available	
pH	7.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
	Volatile Weight 47.82%	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
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
100-41-4	Ethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available 3500 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
108-88-3	Toluene	17	
100-41-4	Ethylbenzene	0.1	

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

52016
07 00

DATE OF PREPARATION
Apr 3, 2010

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

52016

PRODUCT NAME

KRYLON® Indoor/Outdoor Paint, Emerald Green

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 832-2541
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
17	74-98-6	Propane		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
8	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
12	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
15	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
1	64742-95-6	Light Aromatic Hydrocarbons		
		ACGIH TLV	Not Available	3.8 mm
		OSHA PEL	Not Available	
2	95-63-6	1,2,4-Trimethylbenzene		
		ACGIH TLV	25 PPM	2.03 mm
		OSHA PEL	25 PPM	
30	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
0.4	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.

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 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

0.7

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	6.15 lb/gal	736 g/l
SPECIFIC GRAVITY	0.74	
BOILING POINT	<0 - 360 °F	<-18 - 182 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	91%	
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 56.24%	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 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
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
64742-95-6	Light Aromatic Hydrocarbons	LC50 RAT LD50 RAT	4HR	Not Available Not Available
95-63-6	1,2,4-Trimethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available Not Available
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

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**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)

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	15	
95-63-6	1,2,4-Trimethylbenzene	2	

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

52101
02 00

DATE OF PREPARATION
Sep 23, 2013

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

52101

PRODUCT NAME

KRYLON® ColorMaster™ with Covermax™ Technology, Gloss Cherry Red

MANUFACTURER'S NAME

Krylon Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3268 www.krylon.com
Regulatory Information	(216) 566-2902
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	1000 PPM	760 mm
		OSHA PEL	1000 PPM	
13	106-97-8	Butane		
		ACGIH TLV	1000 PPM	760 mm
		OSHA PEL	800 PPM	
19	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
0.1	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
34	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	

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 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.

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

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

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	6.19 lb/gal	741 g/l
SPECIFIC GRAVITY	0.74	
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	Not Available	
pH	7.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
	Volatile Weight 49.21%	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	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
100-41-4	Ethylbenzene	LC50 RAT	4HR	Not Available
		LD50 RAT		3500 mg/kg
67-64-1	Acetone	LC50 RAT	4HR	Not Available
		LD50 RAT		5800 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
108-88-3	Toluene	19	
100-41-4	Ethylbenzene	0.1	

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

52411
06 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

52411

PRODUCT NAME

KRYLON® Indoor/Outdoor Paint, Pumpkin Orange

MANUFACTURER'S NAME

Krylon Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3268 www.krylon.com
Regulatory Information	(216) 566-2902
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
17	74-98-6	Propane		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
8	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
12	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
15	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
1	64742-95-6	Light Aromatic Hydrocarbons		
		ACGIH TLV	Not Available	3.8 mm
		OSHA PEL	Not Available	
2	95-63-6	1,2,4-Trimethylbenzene		
		ACGIH TLV	25 PPM	2.03 mm
		OSHA PEL	25 PPM	
30	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
0.3	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.

HMIS Codes

Health	2*
Flammability	4
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 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 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

0.7

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	6.14 lb/gal	735 g/l
SPECIFIC GRAVITY	0.74	
BOILING POINT	<0 - 360 °F	<-18 - 182 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	91%	
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 56.08%	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.

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
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
64742-95-6	Light Aromatic Hydrocarbons	LC50 RAT LD50 RAT	4HR	Not Available Not Available
95-63-6	1,2,4-Trimethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available Not Available
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

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
108-88-3	Toluene	15	
95-63-6	1,2,4-Trimethylbenzene	2	

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

52504
01 00

DATE OF PREPARATION
Mar 5, 2015

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

52504

PRODUCT NAME

KRYLON® ColorMaster™ with Covermax™ Technology Paint + Primer, Gloss Khaki

MANUFACTURER'S NAME

Krylon Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 457-9566 www.krylon.com
Regulatory Information	(216) 566-2902
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	1000 PPM	760 mm
		OSHA PEL	1000 PPM	
13	106-97-8	Butane		
		ACGIH TLV	1000 PPM	760 mm
		OSHA PEL	800 PPM	
14	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
31	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
3	616-38-6	Dimethyl Carbonate		
		ACGIH TLV	Not Available	53 mm
		OSHA PEL	Not Available	
5	763-69-9	Ethyl 3-Ethoxypropionate		
		ACGIH TLV	Not Available	1.11 mm
		OSHA PEL	Not Available	
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.

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 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

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	6.47 lb/gal	775 g/l
SPECIFIC GRAVITY	0.78	
BOILING POINT	<0 - 342 °F	<-18 - 172 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	89%	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
pH	> 2.0, < 11.5	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
	Volatile Weight 46.62%	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 LD50 RAT	4HR	Not Available Not Available
106-97-8	Butane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
67-64-1	Acetone	LC50 RAT LD50 RAT	4HR	Not Available 5800 mg/kg
616-38-6	Dimethyl Carbonate	LC50 RAT LD50 RAT	4HR	Not Available 13000 mg/kg
763-69-9	Ethyl 3-Ethoxypropionate	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

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	14	

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

53540
06 00

DATE OF PREPARATION
Apr 19, 2010

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

53540

PRODUCT NAME

KRYLON® Indoor/Outdoor Paint, Sweet Cream

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON Products Group
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 832-2541
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
17	74-98-6	Propane		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
8	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
10	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
16	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
1	64742-95-6	Light Aromatic Hydrocarbons		
		ACGIH TLV	Not Available	3.8 mm
		OSHA PEL	Not Available	
2	95-63-6	1,2,4-Trimethylbenzene		
		ACGIH TLV	25 PPM	2.03 mm
		OSHA PEL	25 PPM	
30	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
4	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.

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 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

0.7

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	6.27 lb/gal	751 g/l
SPECIFIC GRAVITY	0.75	
BOILING POINT	<0 - 360 °F	<-18 - 182 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	91%	
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 55.04%	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 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
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
64742-95-6	Light Aromatic Hydrocarbons	LC50 RAT LD50 RAT	4HR	Not Available Not Available
95-63-6	1,2,4-Trimethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available Not Available
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

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**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)

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	16	
95-63-6	1,2,4-Trimethylbenzene	2	

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

K08304
03 00

DATE OF PREPARATION
Feb 7, 2009

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

K08304

PRODUCT NAME

KRYLON® LINE-UP™ Striping Paint (Solvent Based), Cover-Up Black

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON PRODUCTS GROUP
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3266 www.kpg-industrial.com
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
15	74-98-6	Propane		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
7	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
9	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
12	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 PPM (Skin)	
		OSHA PEL	150 PPM (Skin) STEL	
0.2	100-41-4	Ethylbenzene		
		ACGIH TLV	100 PPM	7.1 mm
		ACGIH TLV	125 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
1	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	
2	111-76-2	2-Butoxyethanol		
		ACGIH TLV	20 PPM	0.88 mm
		OSHA PEL	25 PPM	
14	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
20	14807-96-6	Talc		
		ACGIH TLV	2 mg/m3 as Resp. Dust	
		OSHA PEL	2 mg/m3 as Resp. Dust	
0.7	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.

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 solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, blood forming, cardiovascular and reproductive systems.

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 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	7.26 lb/gal	869 g/l
SPECIFIC GRAVITY	0.87	
BOILING POINT	<0 - 343° F	<-18 - 172° C
MELTING POINT	Not Available	
VOLATILE VOLUME	80%	
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 49.48%

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.

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.

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
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
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
111-76-2	2-Butoxyethanol	LC50 RAT LD50 RAT	4HR	Not Available 470 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
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**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

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	12	
100-41-4	Ethylbenzene	0.1	
1330-20-7	Xylene	1	
	Glycol Ethers	2	

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

K08305
05 00

DATE OF PREPARATION
May 18, 2009

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

K08305

PRODUCT NAME

KRYLON® LINE-UP™ Athletic Striping Paint (Water-Based), Athletic White

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON PRODUCTS GROUP
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3266 www.kpg-industrial.com
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	
6	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
8	110-54-3	Hexane		
		ACGIH TLV	50 PPM	127 mm
		OSHA PEL	50 PPM	
4	107-83-5	2-Methylpentane		
		ACGIH TLV	Not Available	211 mm
		OSHA PEL	Not Available	
1	96-14-0	3-Methylpentane		
		ACGIH TLV	500 PPM	211 mm
		OSHA PEL	Not Available	
1	79-29-8	2,3-Dimethylbutane		
		ACGIH TLV	Not Available	230 mm
		OSHA PEL	Not Available	
7	142-82-5	Heptane		
		ACGIH TLV	400 PPM	50 mm
		ACGIH TLV	500 PPM STEL	
		OSHA PEL	400 PPM	
		OSHA PEL	500 PPM STEL	
6	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
0.3	100-41-4	Ethylbenzene		
		ACGIH TLV	100 PPM	7.1 mm
		ACGIH TLV	125 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
2	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	
22	471-34-1	Calcium Carbonate		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	
13	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 solvent ingredients in Section 2 may cause adverse effects to the liver, urinary and reproductive systems.

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 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

9.5

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	7.81 lb/gal	936 g/l
SPECIFIC GRAVITY	0.94	
BOILING POINT	<0 - 325 °F	<-18 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	81%	
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 52.37%	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

Prolonged and repeated exposure to Hexane may cause damage to nerve tissue of the arms and legs (peripheral neuropathy), resulting in muscular weakness and loss of sensation. This effect may be increased by the presence of Methyl Ethyl Ketone.

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
110-54-3	Hexane	LC50 RAT LD50 RAT	4HR	Not Available 28700 mg/kg
107-83-5	2-Methylpentane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
96-14-0	3-Methylpentane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
79-29-8	2,3-Dimethylbutane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
142-82-5	Heptane	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
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**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

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
110-54-3	Hexane	8	
100-41-4	Ethylbenzene	0.3	
1330-20-7	Xylene	2	

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

K08306
02 00

DATE OF PREPARATION
Feb 9, 2009

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

K08306

PRODUCT NAME

KRYLON® LINE-UP™ Athletic Striping Paint (Water-Based), Athletic Yellow

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON PRODUCTS GROUP
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3266 www.kpg-industrial.com
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	
3	110-54-3	Hexane		
		ACGIH TLV	50 PPM	127 mm
		OSHA PEL	50 PPM	
2	107-83-5	2-Methylpentane		
		ACGIH TLV	Not Available	211 mm
		OSHA PEL	Not Available	
8	64742-89-8	Lt. Aliphatic Hydrocarbon Solvent		
		ACGIH TLV	100 PPM	53 mm
		OSHA PEL	100 PPM	
16	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 PPM (Skin)	
		OSHA PEL	150 PPM (Skin) STEL	
3	14807-96-6	Talc		
		ACGIH TLV	2 mg/m3 as Resp. Dust	
		OSHA PEL	2 mg/m3 as Resp. Dust	
3	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	
2	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.

HMIS Codes

Health	2*
Flammability	2
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 solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, cardiovascular and reproductive systems.

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

9.5

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) 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	7.12 lb/gal	852 g/l
SPECIFIC GRAVITY	0.86	
BOILING POINT	<0 - 238° F	<-18 - 114° C
MELTING POINT	Not Available	
VOLATILE VOLUME	88%	
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 44.52%	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**

Prolonged and repeated exposure to Hexane may cause damage to nerve tissue of the arms and legs (peripheral neuropathy), resulting in muscular weakness and loss of sensation. This effect may be increased by the presence of Methyl Ethyl Ketone.

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 LD50 RAT	4HR	Not Available Not Available
110-54-3	Hexane	LC50 RAT LD50 RAT	4HR	Not Available 28700 mg/kg
107-83-5	2-Methylpentane	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
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 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**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

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
110-54-3	Hexane	3	
108-88-3	Toluene	16	

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

K08316
03 00

DATE OF PREPARATION
Dec 26, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

K08316

PRODUCT NAME

KRYLON® LINE-UP™ Athletic Striping Paint (Water-Based), Old Gold

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON PRODUCTS GROUP
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3266 www.kpg-industrial.com
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	
8	110-54-3	Hexane		
		ACGIH TLV	50 PPM	127 mm
		OSHA PEL	50 PPM	
3	107-83-5	2-Methylpentane		
		ACGIH TLV	Not Available	211 mm
		OSHA PEL	Not Available	
1	96-14-0	3-Methylpentane		
		ACGIH TLV	500 PPM	211 mm
		OSHA PEL	Not Available	
1	79-29-8	2,3-Dimethylbutane		
		ACGIH TLV	Not Available	230 mm
		OSHA PEL	Not Available	
6	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
10	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
0.2	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
1	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	
3	14807-96-6	Talc		
		ACGIH TLV	2 mg/m3 as Resp. Dust	
		OSHA PEL	2 mg/m3 as Resp. Dust	
7	1317-65-3	Calcium Carbonate		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	15 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	
2	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 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.

HMIS Codes

Health	2*
Flammability	2
Reactivity	0

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

0.9

UEL

9.5

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) 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	7.15 lb/gal	856 g/l
SPECIFIC GRAVITY	0.86	
BOILING POINT	<0 - 325 °F	<-18 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	91%	
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 47.81%	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

Prolonged and repeated exposure to Hexane may cause damage to nerve tissue of the arms and legs (peripheral neuropathy), resulting in muscular weakness and loss of sensation. This effect may be increased by the presence of Methyl Ethyl Ketone.

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
110-54-3	Hexane	LC50 RAT LD50 RAT	4HR	Not Available 28700 mg/kg
107-83-5	2-Methylpentane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
96-14-0	3-Methylpentane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
79-29-8	2,3-Dimethylbutane	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
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
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
14807-96-6	Talc	LC50 RAT LD50 RAT	4HR	Not Available Not Available
1317-65-3	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
110-54-3	Hexane	8	
108-88-3	Toluene	10	
100-41-4	Ethylbenzene	0.2	
1330-20-7	Xylene	1	

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

K21147250
36 00

DATE OF PREPARATION
Sep 17, 2011

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

K21147250

PRODUCT NAME

KRYLON COMMERCIAL COATINGS™ Interior Latex Wall Primer, White/White Base

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON PRODUCTS GROUP
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3266 www.kpg-industrial.com
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
2	14808-60-7	Quartz		
		ACGIH TLV	0.025 mg/m3 as Resp. Dust	
		OSHA PEL	0.1 mg/m3 as Resp. Dust	
5	14807-96-6	Talc		
		ACGIH TLV	2 mg/m3 as Resp. Dust	
		OSHA PEL	2 mg/m3 as Resp. Dust	
12	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.

In a confined area vapors in high concentration may cause headache, nausea or dizziness.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

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	1*
Flammability	0
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	LEL	UEL	FLAMMABILITY CLASSIFICATION
Not Applicable	N.A.	N.A.	Not Applicable

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.

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 Applicable

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. 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).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other 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 more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

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

Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	10.59 lb/gal	1269 g/l
SPECIFIC GRAVITY	1.27	
BOILING POINT	212 - 213 °F	100 - 100 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	72%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	9.0	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

0.76 lb/gal	91 g/l	Less Water and Federally Exempt Solvents
0.23 lb/gal	27 g/l	Emitted VOC

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**

Crystalline Silica (Quartz, Cristobalite) is listed by IARC and NTP. Long term exposure to high levels of silica dust, which can occur only when sanding or abrading the dry film, may cause lung damage (silicosis) and possibly cancer.

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			
14808-60-7	Quartz	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
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 is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Incinerate in approved facility. Do not incinerate closed 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)

Not Regulated for Transportation.

Canada (TDG)

Not Regulated for Transportation.

IMO

Not Regulated for Transportation.

IATA/ICAO

Not Regulated for Transportation.

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
---------	-------------------	---------	-----------

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

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

RTA9213
01 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER	HMIS CODES
RTA9213	Health 2*
	Flammability 4
	Reactivity 1

PRODUCT NAME	RUST TOUGH* Rust Preventive Enamel (aerosol), Aluminum
MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
THE SHERWIN-WILLIAMS COMPANY	(216) 566-2917
KRYLON Products Group	
Cleveland, OH 44115	
DATE OF PREPARATION	INFORMATION TELEPHONE NO.
01-JUL-06	(800) 832-2541

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
16	74-98-6	Propane		
		ACGIH TLV	2500 ppm	
		OSHA PEL	1000 ppm	760 mm
16	106-97-8	Butane		
		ACGIH TLV	800 ppm	
		OSHA PEL	800 ppm	760 mm
1	64742-88-7	Mineral Spirits		
		ACGIH TLV	100 ppm	
		OSHA PEL	100 ppm	2 mm
34	108-88-3	Toluene		
		ACGIH TLV	50 ppm (Skin)	
		OSHA PEL	100 ppm (Skin)	22 mm
		OSHA PEL	150 ppm (Skin) STEL	
0.4	100-41-4	Ethylbenzene		
		ACGIH TLV	100 ppm	
		ACGIH TLV	125 ppm STEL	7.1 mm
		OSHA PEL	100 ppm	
		OSHA PEL	125 ppm STEL	
2	1330-20-7	Xylene		
		ACGIH TLV	100 ppm	
		ACGIH TLV	150 ppm STEL	5.9 mm
		OSHA PEL	100 ppm	
		OSHA PEL	150 ppm STEL	
10	67-64-1	Acetone		
		ACGIH TLV	500 ppm	
		ACGIH TLV	750 ppm STEL	180 mm
		OSHA PEL	1000 ppm	

Continued on page 2

=====
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.

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

LEL

UEL

Propellant < 0 F

1.0

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.

Continued on page 3

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).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other 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 more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

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	6.24 lb/gal	747 g/l
SPECIFIC GRAVITY	0.75	
BOILING POINT	<0 - 395 F	<-18 - 201 C
MELTING POINT	Not Available	
VOLATILE VOLUME	87 %	
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	69.51%	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

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.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, cardiovascular and reproductive systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

Continued on page 5

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
64742-88-7	Mineral Spirits	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
108-88-3	Toluene	LC50	RAT	4HR	4000 ppm
		LD50	RAT		5000 mg/kg
100-41-4	Ethylbenzene	LC50	RAT	4HR	Not Available
		LD50	RAT		3500 mg/kg
1330-20-7	Xylene	LC50	RAT	4HR	5000 ppm
		LD50	RAT		4300 mg/kg
67-64-1	Acetone	LC50	RAT	4HR	Not Available
		LD50	RAT		5800 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

No data available.

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	34	
100-41-4	Ethylbenzene	0.3	
1330-20-7	Xylene	2	

Continued on page 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

345
01 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER	HMIS CODES
345	Health 2*
	Flammability 4
	Reactivity 1

PRODUCT NAME
KRYLON* WEEKEND Spray Paint, Chrome Aluminum

MANUFACTURER'S NAME THE SHERWIN-WILLIAMS COMPANY Diversified Brands Cleveland, OH 44115	EMERGENCY TELEPHONE NO. (216) 566-2917
--	---

DATE OF PREPARATION 19-FEB-04	INFORMATION TELEPHONE NO. (800) 247-3266
----------------------------------	---

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
16	74-98-6	Propane		
		ACGIH TLV 2500	ppm	760 mm
		OSHA PEL 1000	ppm	
16	106-97-8	Butane		
		ACGIH TLV 800	ppm	760 mm
		OSHA PEL 800	ppm	
1	64742-88-7	Mineral Spirits		
		ACGIH TLV 100	ppm	2 mm
		OSHA PEL 100	ppm	
34	108-88-3	Toluene		
		ACGIH TLV 50	ppm (skin)	22 mm
		OSHA PEL 100	ppm (skin)	
		OSHA PEL 150	ppm (skin) STEL	
0.4	100-41-4	Ethylbenzene		
		ACGIH TLV 100	ppm	7.1 mm
		ACGIH TLV 125	ppm STEL	
		OSHA PEL 100	ppm	
		OSHA PEL 125	ppm STEL	
2	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	
10	67-64-1	Acetone		
		ACGIH TLV 500	ppm	180 mm
		ACGIH TLV 750	ppm STEL	
		OSHA PEL 1000	ppm	

Continued on page 2

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.

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

LEL

UEL

Propellant < 0 F

1.0

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.

Continued on page 3

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.

Continued on page 4

=====

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.23 lb/gal	746 g/l
SPECIFIC GRAVITY	0.75	
BOILING POINT	<0 - 395 F	<-18 - 201 C
MELTING POINT	Not Available	
VOLATILE VOLUME	87 %	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	7.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)		
Volatile Weight 70.31 %	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

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.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, cardiovascular and reproductive systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

=====

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
64742-88-7	Mineral Spirits	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
108-88-3	Toluene	LC50	RAT	4HR	4000 ppm
		LD50	RAT		5000 mg/kg
100-41-4	Ethylbenzene	LC50	RAT	4HR	Not Available
		LD50	RAT		3500 mg/kg
1330-20-7	Xylene	LC50	RAT	4HR	5000 ppm
		LD50	RAT		4300 mg/kg
67-64-1	Acetone	LC50	RAT	4HR	Not Available
		LD50	RAT		5800 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

No data available.

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	34	
100-41-4	Ethylbenzene	0.3	
1330-20-7	Xylene	2	

Continued on page 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

346
05 00

DATE OF PREPARATION
Dec 12, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

346

PRODUCT NAME

KRYLON® WEEKEND® Spray Paint, Gold Plate

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON PRODUCTS GROUP
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3266 www.kpg-industrial.com
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
16	74-98-6	Propane		
		ACGIH TLV	1000 PPM	760 mm
		OSHA PEL	1000 PPM	
16	106-97-8	Butane		
		ACGIH TLV	1000 PPM	760 mm
		OSHA PEL	800 PPM	
38	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
14	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
5	Proprietary	Bronze Pigment		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	

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 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

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 - 238 °F	<-18 - 114 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	91%	
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 69.75%	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**

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

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
67-64-1	Acetone	LC50 RAT	4HR	Not Available
		LD50 RAT		5800 mg/kg
Proprietary	Bronze Pigment	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 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
108-88-3	Toluene	38	

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.

M A T E R I A L S A F E T Y D A T A S H E E T

I. IDENTIFICATION

MANUFACTURED BY: Diamond Vogel Paint
1020 Albany Place SE
Orange City, Ia 51041

24 Hour Emergency Telephone
CHEMTREC 1-800-424-9300

REVISED: 02/09/2005
PRINTED: 02/10/2005

General Information:
Mon-Fri 8 AM - 5 PM
712-737-4993

TRADE NAME: KUBOTA BRIGHT ORANGE II AEROSOL

MFG. PRODUCT NUMBER: 70000-73713

Alternate Code: VLX14322-19A

PROPER SHIPPING NAME: Aerosol Paint

II. HAZARDOUS INGREDIENTS

CAS #142-82-5	Heptane	WT %: 20-50	Footnote: (1)
ACGIH TLV: 400 ppm TWA	ACGIH STEL: 500 ppm		
OSHA PEL: 500 ppm TWA	OSHA CEILING:	OSHA PEAK:	
VAPOR PRESSURE: 45mmHg@20C	LEL%: 1.2		
CAS #75-28-5	Isobutane	WT %: 5-20	
ACGIH TLV: N.E.	ACGIH STEL:		
OSHA PEL: N.E.	OSHA CEILING:	OSHA PEAK:	
VAPOR PRESSURE: 3.1 atm	LEL%: 1.6		
CAS #74-98-6	Propane	WT %: 5-20	
ACGIH TLV: 2500 ppm TWA	ACGIH STEL:		
OSHA PEL: 1000 ppm TWA	OSHA CEILING:	OSHA PEAK:	
VAPOR PRESSURE: 7150mmHg20c	LEL%:		
CAS #67-64-1	Acetone	WT %: 5-20	Footnote: (1)
ACGIH TLV: 500 ppm TWA	ACGIH STEL: 1000 ppm		
OSHA PEL: 1000 ppm TWA	OSHA CEILING:	OSHA PEAK:	
VAPOR PRESSURE: 185mm Hg60F	LEL%: 2.6%		
CAS #71-36-3	Butanol	WT %: 5-20	Footnote: (1)
ACGIH TLV: 50 ppm SKIN	ACGIH STEL: 150 ppm SKIN		
OSHA PEL: 100 ppm TWA	OSHA CEILING: 150 mg/m3 SKIN	OSHA PEAK:	
VAPOR PRESSURE: 4.4 mm	LEL%: 1.45		
CAS #108-65-6	PropyGlycolMethyleEtherAcet	WT %: 1-5	Footnote: (1)
ACGIH TLV: NE	ACGIH STEL: NE		
OSHA PEL: NE	OSHA CEILING:	OSHA PEAK:	
VAPOR PRESSURE: 3.7mmHg@20C	LEL%: 1.6%		
CAS #64742-95-6	Aromatic 100	WT %: 1-5	Footnote: (1)
ACGIH TLV:	ACGIH STEL:		
OSHA PEL:	OSHA CEILING:	OSHA PEAK:	
VAPOR PRESSURE: 2.7mmHg20c	LEL%: 0.9		
CAS #1330-20-7	Xylene	WT %: 1-5	Footnote: (1)
ACGIH TLV: 100 ppm TWA	ACGIH STEL: 150 ppm		
OSHA PEL: 100 ppm TWA	OSHA CEILING:	OSHA PEAK:	
VAPOR PRESSURE: 6.6mmHg@20C	LEL%: 1.0%		

70000-73713

2

CAS #100-41-4 Ethyl Benzene

WT %: 0.724

ACGIH TLV: 100 ppm TWA

ACGIH STEL: 125 ppm

OSHA PEL: 100 ppm TWA

OSHA CEILING:

OSHA PEAK:

VAPOR PRESSURE:

LEL%:

WARNING MESSAGES:

- (1) Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Chronic exposure may cause damage to the central nervous system, respiratory system, lung, eye, skin, liver, gastrointestinal tract, spleen, kidneys, and blood.
- (2) See Section IX for reportable Hazardous Air Pollutants.

III. PHYSICAL DATA

BOILING RANGE: -43-356° F

EVAPORATION RATE: Propellant: Faster than ether Solvent: Slower than ether.

PERCENT VOLATILE BY VOLUME: 94.57%

WEIGHT PER GALLON: 5.92 LBS

VAPOR DENSITY: Propellant is lighter than air Solvent is heavier than air

ACTUAL VOC (lb/gal): 4.59

EPA VOC (lb/gal): 5.21

EPA VOC (g/L): 624.37

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: -156° F -105° C

LEL: Refer to Section II

FLAMMABILITY CLASSIFICATION: CLASS 1A

DOT CLASSIFICATION (HAZARD CLASS): FLAMMABLE

CONSUMER COMMODITY ORM-D

EXTINGUISHING MEDIA: *carbon dioxide, dry chemical, or fire foam*

UNUSUAL FIRE AND EXPLOSION HAZARDS: With excessive heat, cans will rupture from internal pressure and discharge flammable contents. Vapors may ignite explosively. Keep away from heat, sparks and flame. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Prevent build up of vapors by opening all windows and doors to achieve cross-ventilation.

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.

V. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: See Section II.

EFFECTS OF OVEREXPOSURE:

Inhalation - Anesthetic

Irritation of the respiratory tract or acute nervous system. Depression caused by headache, dizziness, staggering gait, confusion, unconsciousness or coma.

Acute - High vapor concentrations are irritating to the eyes and the respiratory tract, and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects including death. Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possible death.

Chronic - Xylene contains ethylbenzene which has been classified as a possible carcinogen to humans, Class B, by the International Agency for Research on Cancer (IARC), based on sufficient evidence in laboratory animals but inadequate evidence for cancer in humans. Prolonged or repeated overexposure to ethylbenzene may cause the following effects: kidney effects, liver effects, lung effects, thyroid effects, testicular effects, pituitary effects.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Eye disease, Skin disorders and Allergies

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

EMERGENCY AND FIRST AID PROCEDURES: Inhalation - Remove to fresh air.

Eyes - Flush immediately with fresh water for 15 minutes.

Call a physician.

Skin- Wash thoroughly with soap and water

VI. REACTIVITY DATA

STABILITY: *stable*

HAZARDOUS POLYMERIZATION: *will not occur*

INCOMPATIBILITY: oxidizing agents, halogens, strong reducing agents and strong bases.

HAZARDOUS DECOMPOSITION: When heated to decomposition, toxic fumes are formed.

CONDITIONS TO AVOID: Fire, burning, and welding.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition (flames, hot surfaces and electrical, static or frictional sparks). Avoid breathing vapors. Ventilate area. Use non-sparking tools. Remove with inert absorbant.

WASTE DISPOSAL METHOD: Dispose of in accordance with local, state, and federal regulations. Do not incinerate closed containers.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: For casual use none required. To avoid breathing vapors or spray mist, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches or dizziness, increase fresh air or wear respiratory protection (NIOSH/MSHA approved) or leave the area. Avoid contact with eyes, skin and clothing.

VENTILATION: Provide general dilution or local exhaust ventilation in volume and pattern to keep TLV and LEL of most hazardous ingredient in Section II, below acceptable limit.

PROTECTIVE GLOVES: Permeation resistant gloves (butyl rubber, nitrile rubber) should be used. Cover as much of the exposed skin area as possible with appropriate clothing.

EYE PROTECTION:

Splash proof eye goggles. In emergency situations, use eye goggles with a full face shield.

OTHER PROTECTIVE EQUIPMENT: Protective clothing such as coveralls or lab coats must be worn.

HYGIENIC PRACTICES: See Section V

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Do not store above 120 degrees F. Store large quantities in buildings designed and protected for storage of NFPA Class 1A flammable liquids.

70000-73713

5

OTHER PRECAUTIONS: Do not spray in eyes. Do not puncture or incinerate cans. Do not stick pin or any sharp objects into opening on top of can. Finger must not protrude over spray button.

LIST OF HAZARDOUS AIR POLLUTANTS SUBJECT TO THE PROVISIONS OF THE CLEAN AIR ACT, TITLE I SECTION 112 'National Emission Standards for Hazardous Air Pollutants':

Ingredient	CAS #	Wt% of HAPS in product	Pounds HAPS/ Gal product
-----	-----	-----	-----
Xylene	1330-20-7	3.4 %	0.2

MATERIAL SAFETY DATA SHEET

Ashland

Page 001

Date Prepared: 01/14/02

Date Printed: 10/29/04

MSDS No: 505.0296439-001.002

KUBOTA SUPER UDT BULK

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: KUBOTA SUPER UDT BULK

SAP Material No: KU40000

Company

Ashland
Ashland Distribution Co. &
Ashland Specialty Chemical Co.
P. O. Box 2219
Columbus, OH 43216
614-790-3333

Emergency Telephone Number:

1-800-ASHLAND (1-800-274-5263)
24 hours everyday

Regulatory Information Number:

1-800-325-3751

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
TRACTOR HYDRAULIC FLUID		95.0-100.0

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye

May cause mild eye irritation.

Skin

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

Swallowing

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

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 (See Section 8).

Symptoms of Exposure

stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), pain in the abdomen.

Target Organ Effects

No data

Developmental Information

No data

MATERIAL SAFETY DATA SHEET

Ashland

Page 002
Date Prepared: 01/14/02
Date Printed: 10/29/04
MSDS No: 505.0296439-001.002

KUBOTA SUPER UDT BULK

Cancer Information

Used motor oil has been shown to cause skin cancer in laboratory animals continually exposed by repeated applications. Avoid prolonged or repeated skin contact.

Other Health Effects

No data

Primary Route(s) of Entry

Skin contact.

4. FIRST AID MEASURES

Eyes

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

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing

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.

Inhalation

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Note to Physicians

This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 3 - Swallowing) when deciding whether to induce vomiting. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin.

5. FIRE FIGHTING MEASURES

Flash Point

176.0 F (80.0 C) TCC

Explosive Limit

Not applicable

Autoignition Temperature

No data

Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland

Page 003

Date Prepared: 01/14/02

Date Printed: 10/29/04

MSDS No: 505.0296439-001.002

KUBOTA SUPER UDT BULK

Hazardous Products of Combustion

May form: aldehydes, carbon dioxide and carbon monoxide, hydrogen sulfide, ketones, nitrogen compounds, sulfur compounds, 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, water fog, 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. Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

NFPA Rating

Health - 1, Flammability - 1, Reactivity - 0

6. ACCIDENTAL RELEASE MEASURES

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 has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

7. HANDLING AND STORAGE

Handling

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.

Storage

Do not store near extreme heat, open flame, or sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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.

MATERIAL SAFETY DATA SHEET

Ashland

Page 004

Date Prepared: 01/14/02

Date Printed: 10/29/04

MSDS No: 505.0296439-001.002

KUBOTA SUPER UDT BULK

Skin Protection

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

Respiratory Protections

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

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).

Exposure Guidelines

Component

TRACTOR HYDRAULIC FLUID

No exposure limits established

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point

(for product) 365.0 F (185.0 C) @ 760.00 mmHg

Vapor Pressure

Not applicable

Specific Vapor Density

Not applicable

Specific Gravity

.880 @ 60.00 F

Liquid Density

7.330 lbs/gal @ 60.00 F

.880 kg/l @ 15.60 C

Percent Volatiles (Including Water)

No data

Evaporation Rate

Not applicable

Appearance

No data

State

LIQUID

Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland

Page 005

Date Prepared: 01/14/02

Date Printed: 10/29/04

MSDS No: 505.0296439-001.002

KUBOTA SUPER UDT BULK

Physical Form

No data

Color

AMBER

Odor

No data

pH

Not applicable

10. STABILITY AND REACTIVITY

Hazardous Polymerization

Product will not undergo hazardous polymerization.

Hazardous Decomposition

May form: aldehydes, carbon dioxide and carbon monoxide, hydrogen sulfide, ketones, nitrogen compounds, sulfur compounds, various hydrocarbons.

Chemical Stability

Stable.

Incompatibility

Avoid contact with: strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

No data

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERATION

Waste Management Information

Dispose of in accordance with all applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101

DOT Description:

Not Regulated

Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland

Page 006
Date Prepared: 01/14/02
Date Printed: 10/29/04
MSDS No: 505.0296439-001.002

KUBOTA SUPER UDT BULK

Container/Mode:

CASES/SURFACE - NO EXCEPTIONS

NOS Component:

None

RQ (Reportable Quantity) - 49 CFR 172.101

Not applicable

15. REGULATORY INFORMATION

US Federal Regulations

CERCLA RQ - 40 CFR 302.4

None

SARA 302 Components - 40 CFR 355 Appendix A

None

Section 311/312 Hazard Class - 40 CFR 370.2

Immediate(X) Delayed() Fire() Reactive() Sudden Release of
Pressure()

SARA 313 Components - 40 CFR 372.65

None

International Regulations

Inventory Status

Not determined

State and Local Regulations

California Proposition 65

None

16. OTHER INFORMATION

The information accumulated herein 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.