



CENTER LINE ELECTRIC, INC.

ELECTRICAL CONTRACTORS

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Material Safety Data Sheets

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AD Fire Protection Systems	A/D Firebarrier Silicone	Firestop Sealant	06-004
AD Fire Protection Systems	A/D Firebarrier Silicone SL	Firestop Sealant	06-005
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Specified Technologies	SpecSeal Series LCI Sealant	Firestop Sealant	06-016

Section 7 - Gasoline, Motor Oils, and Miscellaneous Automotive Fluids

Manufacturer	Product Name	Description	CLE MSDS #
Speedway LLC	Regular Unleaded Gasoline	Gasoline	07-001
Speedway LLC	No. 2 Low Sulfur Diesel	Diesel Gasoline	07-002
Exxon Mobil	Mobil Super 10W-30	Motor Oil	07-003
Exxon Mobil	Mobil Super 10W-40	Motor Oil	07-004
Aftermarket Auto Pars	Parts Master 15W-40	Motor Oil	07-005
Speedway LLC	SAE 30 Motor Oil	Motor Oil	07-006
Speedway LLC	All Season 10W-40	Motor Oil	07-007
Speedway LLC	Diesel Motor Oil 15W-40	Diesel Motor Oil	07-008
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Manufacturer	Product Name	Description	CLE MSDS #
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Praxair	Oxygen	Oxidizer	10-002
Airgas Inc	Acetylene	Flammable Gas	10-003
Praxair	Acetylene	Flammable Gas	10-004
Amerigas Propane	Propane	Liquified Petroleum Gas	10-005
Praxair	Propane	Liquified Petroleum Gas	10-006
Speedway	Propane	Liquified Petroleum Gas	10-007
Airgas Inc	Carbon Dioxide	CO2	10-008

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Manufacturer	Product Name	Description	CLE MSDS #
Dupont	ANSI Med Gray	Paint	11-001
Dupont	IMRON VG-6005	Activator/Hardener	11-002
Krylon	Krylon Quick-Mark Orange	Marking Paint	11-003
Krylon	Krylon Quick-Mark White	Marking Paint	11-004
Krylon	Rust Tough Gray Enamel	Rust Preventative Enamel	11-005
Krylon	Rust Tough Black Enamel	Rust Preventative Enamel	11-006
Krylon	Rust Tough Gloss Blk Enamel	Rust Preventative Enamel	11-007
Krylon	Rust Tough Gray Primer	Rust Prevent Enamel Primer	11-008
Krylon	Crystal Clear Acrylic Coating	Protective Spray Coating	11-009
Krylon	Decorator Acrylic Crystal Clr	Protective Spray Coating	11-010
Aerovoe	Clear Marking Coat	Protective Spray Coating	11-011

Section 12 - PVC Conduit, Fittings, Solvents, Glues, and Primers

Manufacturer	Product Name	Description	CLE MSDS #
Cantex Inc	Polyvinyl Chloride Conduit	PVC Conduit and Fittings	12-001
Cantex Inc	#10 PUR Low VOC Primer	PVC Primer	12-002
Cantex Inc	All Weather CLR Low VOC	PVC Cement	12-003
Cantex Inc	#99 Clear Low VOC Cement	PVC Cement	12-004
Carlson Electrical Products	All Weather Quickset Clear	PVC Cement	12-005
Carlson Electrical Products	Standard Clear PVC Solvent	PVC Solvent Cement	12-006
Carlson Electrical Products	Clear Primer	PVC Primer	12-007
IPEX Inc	636 CLR Low VOC Primer	PVC Primer	12-008
IPEX Inc	4 CLR Low VOC Gen Purp Cem	PVC Cement	12-009
IPEX Inc	Xirtex 7 CLR Low VOC Primer	PVC Primer	12-010
IPEX Inc	Xirtex 7 PUR Low Voc Primer	PVC Primer	12-011

Section 13 - Welding Electrodes

Manufacturer	Product Name	Description	CLE MSDS #
Lincoln Electric Co	Excalibur 7018MR	Covered Electrode	13-001
Lincoln Electric Co	Jetweld LH-70	Covered Electrode	13-002



Flammability Document # 6810-005



MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label) Noalox® Anti-Oxidant		CATALOG NUMBER All "30" Series
MANUFACTURER'S NAME IDEAL INDUSTRIES, INC.		EMERGENCY TELEPHONE NO. (815) 895-5181
ADDRESS (Number, Street, City, State, Zip Code) Becker Place, Sycamore, IL 60178		
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD CLASS NO., HAZARD ID NO. (49 CFR 172.101) None		
CHEMICAL DESCRIPTION Petroleum-Based Mixture	FORMULA Proprietary	

SECTION I - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)*	Listed as a carcinogen in NTP, IARC or OSHA 1910(z) (specify)
9003-29-6	<80	Polybutene	No
7440-66-6	20	Zinc Dust	No
112945-52-5	<5	Silicon Dioxide	No

SECTION II - PHYSICAL DATA

BOILING POINT >500 °F °C	SPECIFIC GRAVITY (H ₂ O=1) 1.04	PERCENT VOLATILE BY VOLUME (%) NF
SOLUBILITY IN WATER Moderate	pH = 6.5 - 8.0	PERCENT SOLID BY WEIGHT (%) 100
APPEARANCE AND ODOR Gray solid paste, mild odor	IS MATERIAL: LIQUID SOLID GEL GAS (PASTE)	

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT 310 F	method used C.O.C	FLAMMABLE LIMITS	LEL N.E.	UEL N.E.
EXTINGUISHING MEDIA Use dry chemical, carbon dioxide or foam.				
SPECIAL FIRE FIGHTING PROCEDURES Self-contained respiratory protection should be provided for fire fighters. Keep fire exposed containers cool with water.				
UNUSUAL FIRE AND EXPLOSION HAZARDS Water or foam may cause a frothing reaction. (Water reacts with zinc dust).				

* None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R 1910.1200

SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE - Conditions to Avoid	None normally expected. Upon prolonged contact, may cause temporary eye discomfort.
THRESHOLD LIMIT VALUE	Zinc dust or silicon dioxide as dust: 10mg/m.
PRIMARY ROUTES OF ENTRY	Inhalation <input type="checkbox"/> Skin Contact <input checked="" type="checkbox"/> Other (specify)
EMERGENCY FIRST AID PROCEDURES	
SKIN CONTACT:	Wash with soap and water for 15 minutes.
EYE CONTACT:	Flush with water for 15 minutes
INGESTION:	Induce vomiting and consult physician or local poison control center.

SECTION V - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID	Avoid conditions of moisture or high humidity.
	STABLE	X		
INCOMPATIBILITY (materials to avoid)				
Avoid strong oxidizers, strong acids and water.				
HAZARDOUS DECOMPOSITION PRODUCTS:				
Excessive heat and burning may release oxides of carbon.				
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID	None
	WILL NOT OCCUR	X		

SECTION VI - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED		Wipe up, shovel or vacuum spilled material. Clean up spills immediately.	
Use absorbent media.			
WASTE DISPOSAL METHOD			
Comply with Federal, state and local regulations for solid landfill.			
CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)		None Required	
RCRA HAZARDOUS WASTE NO. (40CFR 261.33)		None Required	
VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)			
128 g/l, calculated			
² Theoretical _____ lb/gal	N/A	Analytical _____ lb/gal	N/A

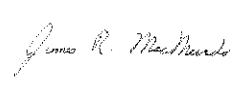
SECTION VII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)			
If TLV exceeded, use NIOSH respirator			
VENTILATION	LOCAL EXHAUST (Specify Rate)	Necessary above TLV	SPECIAL None
	MECHANICAL (General) (Specify Rate)	Recommended in closed areas	OTHER None
PROTECTIVE GLOVES (specify type)		EYE PROTECTION (specify type)	
None normally needed - Neoprene if necessary		Safety glasses or splash goggles.	
OTHER PROTECTIVE EQUIPMENT			
Eye fountain in work area is recommended.			

SECTION VIII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	
Store in dry conditions at temperatures between 40 - 120 F.	
OTHER PRECAUTIONS	
Keep away from children, infants and pets.	

SECTION IX - ADDITIONAL INFORMATION

This product contains the following materials that are subject to the reporting requirements of Section 313 of EPCRA:	
CAS # 7440-66-6, Zinc Dust, 20%	
N/A = Not Applicable, N.E. = None Established	
THIS MATERIAL SAFETY DATA SHEET PREPARED BY:	
NAME	James R. MacMurdo
TITLE	Director, Corporate Quality Assurance
DATE	5/27/2010
SIGNATURE	



Material Safety Data Sheet

Section 1: Product & Company Identification

Product Name: Zinc-It® Instant Cold Galvanize

Product Number (s): 18412, 18412-6

Manufactured By:

CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com

General Information	(215) 674-4300
Technical Assistance	(800) 521-3168
Customer Service	(800) 272-4620
24-Hr Emergency (CHEMTREC)	(800) 424-9300

Section 2: Hazards Identification

Emergency Overview

Appearance & Odor: Gray viscous liquid, aromatic odor

DANGER

Extremely Flammable. Harmful or Fatal if Swallowed. Vapor Harmful.
Contents Under Pressure.

As defined by OSHA's Hazard Communication Standard, this product is hazardous.

Potential Health Effects:

EYE: Eye irritant. May cause irritation.

SKIN: Skin irritant. May cause irritation. Frequent exposure to solvents may cause defatting dermatitis.

INHALATION: Inhalation of solvents may cause irritation, dizziness, and nausea. Propellant is a simple asphyxiant.

INGESTION: May cause headache, nausea, vomiting and weakness.

CHRONIC EFFECTS: Defatting dermatitis to skin.

TARGET ORGANS: Unknown

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.
Zinc Elemental	7440-66-6	30 – 60
Toluene	108-88-3	10 – 30
Naphtha	8030-30-6	1 - 5
Isobutane	75-28-5	7 - 13
Propane	74-98-6	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:** Do not induce vomiting. Get medical attention.
- Note to Physicians:** Aspiration hazard. Treat symptomatically.

Section 5: Fire-Fighting Measures

- Flammable Properties:** This product is extremely flammable in accordance with aerosol flammability definitions (16 CFR 1500.3(c)(6)).
- | | | | |
|---------------------------|------------|------------------------|-----|
| Flash Point: | 39 F (TCC) | Upper Explosive Limit: | 9.5 |
| Autoignition Temperature: | > 800 F | Lower Explosive Limit: | 1.0 |
- Suitable Extinguishing Media:** Water, carbon dioxide, dry chemical, foam.
- Products of Combustion:** Hydrocarbon fumes and smoke. Carbon monoxide where combustion is incomplete.
- 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: Do not use on energized equipment or near sources of ignition. Do not inhale vapors. Use local ventilation.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120 F to prevent cans from rupturing.

Aerosol Storage Level: 1

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
Zinc elemental	NE	NE	NE	NE	NE		
Toluene	200	300 (c)	20	NE	NE		ppm
Naphtha	500	NE	400	NE	NE		ppm
Isobutane	1000	NE	1000	NE	NE		ppm
Propane	1000	NE	1000	NE	NE		ppm

N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor / paint cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as neoprene or nitrile. 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: gray

Odor: aromatic

Specific Gravity: 1.49 – 1.53

Initial Boiling Point: 195 F

Freezing Point: NE

Vapor Pressure: 40 - 50 psig @ 68 F

Vapor Density: > 1 (air = 1)

Evaporation Rate: > 1 (butyl acetate = 1)

Solubility: negligible in water

pH: NA

Volatile Organic Compounds: wt %: 38 g/L: ~574 lbs./gal: ~4.8

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition. Temperature extremes.

Incompatible Materials: Strong oxidizing agents

Hazardous Decomposition Products: Hydrocarbon fumes and smoke. 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 EFFECTS

<u>Component</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Toluene	LD50	5000 mg/kg	Oral	Rat
Toluene	LC50	8000 ppm/4H	Inhalation	Rat

CHRONIC EFFECTS

Carcinogenicity:

	<u>Component</u>	<u>Result</u>
OSHA:	None listed	
IARC:	None listed	
NTP:	None listed	

Mutagenicity: No information available

Other: None

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

Disposal: The dispensed liquid product is a RCRA hazardous waste for the characteristic of ignitability with the following potential waste codes: D001 (See 40 CFR Part 261.20 – 261.33)
Aerosol containers should be fully emptied and depressurized before disposal. The empty container can be recycled.

All disposal activities must comply with federal, state and local regulations. Local regulations may be more stringent than state or national requirements.

Section 14: Transport Information

Proper shipping description:

US DOT (ground): Consumer Commodity, ORM-D

Special Provisions: None

Section 15: Regulatory Information

U.S. Federal

Toxic Substances Control Act (TSCA):

All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Reportable Quantities (RQ's) exist for the following ingredients: Zinc (1000 lbs), Toluene (1000 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:
Zinc compounds (<60%), Toluene (<30%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): Toluene

State Regulations

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):

This product may contain the following chemicals known to the state of

Product Name: Zinc-It® Instant Cold Galvanize

Product Number (s): 18412, 18412-6

California to cause cancer, birth defects or other reproductive harm:

Ethylbenzene, Toluene

State Right to Know:

New Jersey: 7440-66-6, 108-88-3, 8030-30-6
Pennsylvania: 7440-66-6, 108-88-3, 8030-30-6
Massachusetts: 7440-66-6, 108-88-3, 8030-30-6
Rhode Island : 7440-66-6, 108-88-3, 8030-30-6

Additional Regulatory Information: This product complies with Aerosol Coating VOC regulations for Primers.
(MIR = 1.2)

Section 16: Other Information

NFPA: Health: 2 Flammability: 4 Reactivity: 1
HMIS: Health: 2 Flammability: 4 Reactivity: 1 PPE: B

Prepared By: Michelle Rudnick
CRC #: 03392-0008
Revision Date: 5/30/2007

Changes since last revision: MSDS reformatted in accordance with ANSI Z400.1-2004

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label.

CAS:	Chemical Abstract Service	NA:	Not Applicable
ppm:	Parts per Million	ND:	Not Determined
TCC:	Tag Closed Cup	NE:	Not Established
PMCC:	Pensky-Martens Closed Cup	g/L:	grams per Liter
PPE:	Personal Protection Equipment	lbs./gal:	pounds per gallon
TWA:	Time Weighted Average	STEL:	Short Term Exposure Limit
OSHA:	Occupational Safety and Health Administration	AIHA:	American Industrial Hygiene Assoc.
ACGIH	American Conference of Governmental Industrial Hygienists		
NIOSH	National Institute of Occupational Safety & Health		

MATERIAL SAFETY DATA SHEET

RTA9255
09 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

RTA9255

PRODUCT NAME

RUST TOUGH® PRIME™ Galvanizing Primer (aerosol)

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
13	74-98-6	Propane	ACGIH TLV OSHA PEL	760 mm
			2500 PPM 1000 PPM	
12	106-97-8	Butane	ACGIH TLV OSHA PEL	760 mm
			800 PPM 800 PPM	
3	142-82-5	Heptane	ACGIH TLV ACGIH TLV OSHA PEL OSHA PEL	50 mm
			400 PPM 500 PPM STEL 400 PPM 500 PPM STEL	
3	64742-89-8	V. M. & P. Naphtha	ACGIH TLV OSHA PEL OSHA PEL	12 mm
			300 PPM 300 PPM 400 PPM STEL	
5	108-88-3	Toluene	ACGIH TLV OSHA PEL OSHA PEL	22 mm
			20 PPM 100 ppm (Skin) 150 ppm (Skin) STEL	
11	78-93-3	Methyl Ethyl Ketone	ACGIH TLV ACGIH TLV OSHA PEL OSHA PEL	70 mm
			200 PPM 300 PPM STEL 200 PPM 300 PPM STEL	
47	7440-66-6	Zinc	ACGIH TLV OSHA PEL	Not Available 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	2
Reactivity	1

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

0.9

UEL

10.0

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	9.55 lb/gal	1144 g/l
SPECIFIC GRAVITY	1.15	
BOILING POINT	<0 - 325 °F	<-18 - 162 °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)	Less Water and Federally Exempt Solvents	
	Volatiles Weight 49.22%	

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.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

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
142-82-5	Heptane	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
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
78-93-3	Methyl Ethyl Ketone	LC50 RAT	4HR	Not Available
		LD50 RAT		2740 mg/kg
7440-66-6	Zinc	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	5	
	Zinc Compound	2	46.9

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

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

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

S00740/S00840
09 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

S00740/S00840

PRODUCT NAME

WL™740 Zinc-Rich Galvanizing Compound Aerosol

MANUFACTURER'S NAME

Sprayon Products
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 777-2966 www.sprayon.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	2500 PPM	760 mm
			OSHA PEL	1000 PPM	
12	106-97-8	Butane	ACGIH TLV	800 PPM	760 mm
			OSHA PEL	800 PPM	
3	142-82-5	Heptane	ACGIH TLV	400 PPM	50 mm
			ACGIH TLV	500 PPM STEL	
			OSHA PEL	400 PPM	
			OSHA PEL	500 PPM STEL	
3	64742-89-8	V. M. & P. Naphtha	ACGIH TLV	300 PPM	12 mm
			OSHA PEL	300 PPM	
			OSHA PEL	400 PPM STEL	
5	108-88-3	Toluene	ACGIH TLV	20 PPM	22 mm
			OSHA PEL	100 ppm (Skin)	
			OSHA PEL	150 ppm (Skin) STEL	
11	78-93-3	Methyl Ethyl Ketone	ACGIH TLV	200 PPM	70 mm
			ACGIH TLV	300 PPM STEL	
			OSHA PEL	200 PPM	
			OSHA PEL	300 PPM STEL	
47	7440-66-6	Zinc	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	2
Reactivity	1

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

0.9

UEL

10.0

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	9.55 lb/gal	1144 g/l
SPECIFIC GRAVITY	1.15	
BOILING POINT	<0 - 325 °F	<-18 - 162 °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)	Less Water and Federally Exempt Solvents	
	Volatile Weight 49.22%	

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.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

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
142-82-5	Heptane	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
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
78-93-3	Methyl Ethyl Ketone	LC50 RAT	4HR	Not Available
		LD50 RAT		2740 mg/kg
7440-66-6	Zinc	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	5	
	Zinc Compound	2	46.9

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

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

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF SUBSTANCE AND PREPARATION

Supplier/Manufacturer:

American Polywater Corporation
 11222 - 60th Street North
 P.O. Box 53
 Stillwater, MN 55082 USA
 Phone: 1-651-430-2270
 Fax: 1-651-430-3634

Polywater Europe BV
 Mauritsplaat 126
 NL-3012CD Rotterdam
 Netherlands
 Tel: +31 10 233 0578

Emergency Number: +1-651-430-2270

<p>Product Name: Polywater[®] Lubricant A</p>

Chemical Description: Water Emulsion of Polymers

Product Use: Cable and Duct Lubrication

2. COMPOSITION / INFORMATION ON INGREDIENTS

This product contains no reportable hazardous components under 29 CFR 1910.1200. There are no OSHA or ACGIH threshold limit values for the product or any of its ingredients. This product contains no reportable hazardous components under European Directives 91/55/EEC. All components are listed on the TSCA inventory.

3. HAZARDS IDENTIFICATION

Emergency Overview:	Lubricant is electrically conductive when applied. Dry from conductor before energizing circuit.
Eye Contact:	Direct eye contact may cause eye irritation. This irritation is minimal and expected to be transient.
Skin Contact:	This product has low skin irritation potential. There is no dermal toxicity hazard.
Irritation and Sensitization Potential:	This product has low skin irritation potential. It is not a sensitizer.
Inhalation (Breathing):	No inhalation hazard expected with water vapor.
Ingestion (Swallowing):	Very low ingestion hazard.

4. FIRST AID MEASURES

Eye Contact:	Flush eyes with a large quantity of water for 15 minutes. If irritation continues, seek medical attention.
Skin Contact:	If skin becomes irritated, wash area thoroughly with soap and water. If irritation continues, seek medical attention.
Inhalation (Breathing):	No first aid expected to be required. Not an inhalation hazard.
Ingestion (Swallowing):	No first aid expected to be required. If difficulties arise, contact a physician.

5. FIRE-FIGHTING MEASURES

Flash Point:	None
Flammable Limits:	Product is not flammable.
Autoignition Temperature:	Does not apply.
Hazardous Decomposition and By-Products:	High temperature steam, potentially carbon monoxide and carbon dioxide.
Extinguishing Media:	Does not apply.
Special Precautions:	Does not apply.
Unusual Hazards:	Sealed container can build up pressure when exposed to high heat. Cool containers with water.

6. ACCIDENTAL RELEASE MEASURES

Lubricant is extremely slippery. It should be washed, swept, or squeegeed from floor using wet mops. Oxidizing agents, such as household bleach, can be used to eliminate the slippery character. Outside, spills should be covered with sand, dirt, gravel or calcium chloride.

7. HANDLING AND STORAGE

Keep product containers closed when not in use. Avoid spills and clean them up immediately when they occur. Product is very slippery.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection:	Normal ventilation is adequate.
Protective Gloves:	For repeated or prolonged skin contact, the use of impermeable gloves is recommended to prevent drying and possible irritation.
Eye Protection:	Safety glasses recommended.
Exposure Limits and Recommendations:	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Transparent, stringy liquid. Faint isopropanol odor.
Odor Threshold:	Not Available
Vapor Density (Air = 1):	0.9 – 1.1
Specific Gravity (H₂O = 1):	0.98
Solubility in Water:	Complete
Boiling Point:	~ 210 °F (98 °C)
Freezing Point:	~ 32 °F (0 °C)

Vapor Pressure:	18mm Hg @ 72°F (22°C)
Viscosity:	150-550 cps. @ 10rpm.
pH:	6.5 to 7.5
Volatiles (Weight %):	99.5%
VOC Content:	20 g/l

10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	None known.
Materials to Avoid:	Avoid materials that react with water.
Hazardous Decomposition and By-Products:	Carbon dioxide, carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Oral Toxicity:	Based on ingredients, LD ₅₀ (rat) is estimated to be well over 50 g/kg.
Chronic Exposure:	Not Available
Carcinogenic Status:	This substance has not been identified as a carcinogen or probable carcinogen by NTP, IARC, or OSHA, nor have any of its components.
Reproductive Toxicity:	Not Available
Mutagenicity:	Not Available
Teratogenicity:	Not Available
Toxicologically Synergistic Products:	Not Available

12. ECOLOGICAL INFORMATION

Mobility:	No information available.
Bioaccumulation:	No information available.
Ecotoxicity:	No information available.

13. DISPOSAL CONSIDERATIONS

Dispose of product in accordance with National and Local Regulations.

14. TRANSPORTATION INFORMATION

UN Number: Not Listed
UN Proper Shipping Name: Not Applicable
Class and Subsidiary Risk: Not Applicable
Packing Group: Not Applicable
TDG: Not Regulated
ICAO/IATA-DGR: Not Regulated
IMDG: Not Regulated
ADR/RID: Not Regulated

15. REGULATORY INFORMATION

USA Federal and State

All components are listed on the TSCA inventory.

Hazard Categories for SARA Section 311/312 Reporting	<u>Acute</u> No	<u>Chronic</u> No	<u>Fire</u> No	<u>Pressure</u> No	<u>Reactive</u> No
<u>Components</u>	<u>CERCLA/SARA Sec 302 Hazardous Substance RQ</u>		<u>EHS TPQ</u>	<u>SARA Sec. 313 Toxic Release</u>	

Components are not affected by these Superfund regulations.

European Union

Product is not classified as hazardous according to European Directives 88/379/EEC and 67/548/EEC and EU Regulation (EC) No 1272/2008.

Risk Phrases: Not Applicable

Safety Phrases: Not Applicable

Product complies with the communication requirements of REACH Regulation (EC) No. 1907/2006. It does not contain Substances of Very High Concern (SVHC).

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Classification NC

Canadian DSL All ingredients listed.

Australia

All components are listed on the AICS.
 Not considered hazardous according to criteria of NOHSC Australia.

16. OTHER INFORMATION

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

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel during spill, fire or similar emergencies. Hazard ratings are based on physical and toxic properties of combustion or decomposition.

Revision Date:	May 10, 2010
Revision Number:	1
Reviewed By:	S. H. Dahlke

The information and recommendations contained herein are believed to be reliable. However, the supplier makes no warranties, express or implied, concerning the use of this product. The buyer must determine conditions of safe usage and assumes all risk and liability in handling this product.

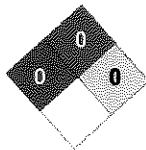
A:MSDS

Greenlee Textron

NFPA

HMIS

Greenlee Cable Cream



HEALTH	0
FIRE	0
REACTIVITY	0
PPE	



SECTION 1 : Chemical Product and Company Identification

MSDS Name: Greenlee Cable Cream
 Manufacturer Name: Greenlee Textron
 Address:

EMERGENCY PHONE # (24 HOUR): Chem-Tel Inc. (800) 255-3924

Product Description:
 Water and polymer solution

Manufacturer MSDS Revision Date:
 April 22, 2002
 Supersedes: February 27, 2001

Trade Names:
 Greenlee Cable Cream

NFPA
 Health: 0
 Flammability: 0
 Reactivity: 0
 Other:
 HMIS
 Health Hazard: 0
 Fire Hazard: 0
 Reactivity: 0
 Personal Protection: None

Distributor Name: Greenlee Textron
 Contact: Safety Manager

Product Codes:
 CRM-Q (35207), CRM-5 (35209), CRM-1 (35208)



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SECTION 2 : Hazardous Ingredients/ Identity Information

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Hazardous Paragraph:
 This product is not hazardous as defined in 29 CFR1910.1200.

This product is not listed in Canada's workplace Hazardous Materials Information System (WHMIS).



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SECTION 3 : Physical And Chemical Characteristics

Physical State/Appearance:
 Viscous gel

Color:
 Yellow

Odor:
 Mild characteristic odors.

pH:
 7.0 to 8.6

Vapor Pressure:
< 18 mmHg at 20 deg C

Boiling Point:
212 deg F

Freezing Point:
28 deg F

Melting Point:
28 deg F

Solubility:
In Water: Miscible

Specific Gravity:
(H2O=1): 0.97
Vapor (AIR=1): 1

Percent Volatile:
> 85%

Viscosity:
Liquid: 50,000 cPS at 25 deg C

FlashPoint:
Non-flammable

Auto Ignition Temp:
None

Upper Flammable Explosive Limit:
None

Lower Flammable Explosive Limit:
None



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SECTION 4 : Fire And Explosion Hazards

Fire:
General Hazard: None

Flash Point:
Non-flammable

Flash Point Method:
TCC

Upper Flammable or Explosive Limit: None

Lower Flammable or Explosive Limit: None

Auto Ignition Temperature: None

Hazardous Combustion Byproducts:
None

Fire Fighting Instructions:
After water has flashed off, residue may smolder or burn. Use foam, dry chemical, or water spray to extinguish.

Note: Not applicable



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SECTION 5 : Health Hazards

Applies to All Ingredients:

Potential Health Effects:

Eye Contact:
May cause temporary discomfort, but does not injure eye tissue.

Skin Contact:
None

Inhalation:
None

Ingestion:

Product has low order of oral toxicity. Ingestion of large quantities may cause gastrointestinal irritation and/or nausea.



TOP

SECTION 6 : Emergency And First Aid Procedures

Eye Contact:

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

Skin Contact:

Wash with soap and water. Remove grossly contaminated clothing including shoes. Launder before reuse.

Inhalation:

Seek fresh air.

Ingestion:

Seek medical attention if gastrointestinal irritation persists.



TOP

SECTION 7 : Reactivity Data

Chemical Stability:

Stable

Conditions to Avoid:

Avoid strong oxidizers and materials that react with water.

Instability: Not applicable

Incompatibilities with Other Materials:

Avoid strong oxidizers and materials that react with water.

Hazardous Polymerization:

Will not occur

Hazardous Decomposition Products:

None



TOP

SECTION 8 : Precautions For Safe Handling

Land Spill:

Recover free product. Wash area immediately with water to avoid slip hazard. Flush into approved waste water system. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

Water Spill:

Remove from surface by skimming. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

Storage:

General: Keep containers closed when not being used.

Electrostatic Accumulation Hazard: None

Storage Temperature, deg F: Ambient

Loading/Unloading Temperature, deg F: Ambient

Storage/Transport Pressure, mmHg: Atmospheric

VISC. At Loading/Unloading Temp: 10,000 cPS at 25 deg C

SPECIAL PRECAUTIONS: Keep out of reach of children.

Ignitable (Yes/No): No

DOT Shipping Name:

Not regulated

DOT Hazard Class: Not regulated

DOT Identification Number: Not available



TOP

SECTION 9 : Control Measures

Ventilation System:

Normal room ventilation is sufficient.

Personal Protective Equipment
Routine Handling:
None required

Exposure Limits:
WORKPLACE EXPOSURE LIMITS:
THE FOLLOWING OCCUPATIONAL EXPOSURE LIMITS ARE RECOMMENDED: None



TOP

SECTION 10 : Other Information

Applies to all ingredients:

TSCA 8(b): Inventory Status

The ingredients in this product are listed on the TSCA inventory.

Section 304:

If this product is accidentally spilled, it is not subject to any special reporting under the requirements of the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA)

Section 312 Hazard Category:

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories: Not hazardous

OSHA 29 CFR 1200:

This product is not hazardous as defined in 29 CFR1910.1200.

Canada WHMIS:

This product is not listed in Canada's workplace Hazardous Materials Information System (WHMIS).

HMIS:

Health Hazard: 0 - Minimal

Fire Hazard: 0 - Minimal

Reactivity: 0 - Minimal

Personal Protection: None

NFPA:

Fire Hazard: 0 - Minimal

Health: 0 - Minimal

Reactivity: 0 - Minimal

MSDS Revision Date:

April 22, 2002

Supersedes: February 27, 2001

MSDS Author:

Safety Manager

Disclaimer:

This information provided herein was believed to be accurate at the time of preparation and prepared from a compilation of sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of this product, and to determine the suitability of the product for its intended use.

Hazard Rating Systems:

This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)

National Fire Protection Association (NFPA 704)
Identification of the Fire Hazards of Materials

KEY:

4 - Severe

3 - Serious

2 - Moderate

1 - Slight

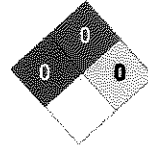
0 - Minimal

Greenlee Textron

NFPA

HMS

Greenlee Cable Gel



HEALTH	0
FIRE	0
REACTIVITY	0
PPE	



SECTION 1 : Chemical Product and Company Identification

MSDS Name: Greenlee Cable Gel
 Manufacturer Name: Greenlee Textron
 Address:
 EMERGENCY PHONE ##(24 HOUR): Chem-Tel Inc. (800) 255-3924

Product Description:
 Water and polymer solution

Manufacturer MSDS Revision Date:
 January 28, 2010
 Supersedes: September 2, 2009
 Supersedes: May 6, 2008

Trade Names:
 Greenlee Cable Gel

NFPA
 Health: 0
 Flammability: 0
 Reactivity: 0
 Other:

HMS
 Health Hazard: 0
 Fire Hazard: 0
 Reactivity: 0
 Personal Protection:
 MSDS Name: Greenlee Cable Gel

CONTACT: Larry Joe Steele, Jr.

NPCA-HMIS:
 Protection: None

KEY:
 4 - Severe
 3 - Serious
 2 - Moderate
 1 - Slight
 0 - Minimal

Product Codes:
 GEL-Q (35211), GEL-1 (35212), GEL-5 (35213)



TOP

SECTION 2 : Hazardous Ingredients/Identity Information

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Hazardous Paragraph:
 This product is not hazardous as defined in 29 CFR1910.1200.

WHMIS - CANADA: This product is not listed in Canada's Workplace Hazardous Materials Information System (WHMIS).



TOP

SECTION 3 : Physical And Chemical Characteristics

Physical State/Appearance:
 Viscous stringy gel

Color:

Blue

Odor:

Characteristic odor

pH:

7.3 - 8.9

Vapor Pressure:

< 18 mmHg at 20 deg C

Boiling Point:

212 deg F

Freezing Point:

32 deg F

Melting Point:

32 deg F

Solubility:

IN WATER: Miscible

Specific Gravity:

(H2O=1): 1.0

SPECIFIC GRAVITY OF VAPOR (AIR=1): 1

Percent Volatile:

> 90%

Viscosity:

VISCOSITY OF LIQUID: 10,000 cPS at 25 deg C

FlashPoint:

Non-flammable

Auto Ignition Temp:

None

Upper Flammable Explosive Limit:

None

Lower Flammable Explosive Limit:

None



[TOP](#)

SECTION 4 : Fire And Explosion Hazards

Fire:

GENERAL HAZARD: None

FLAMMABLE LIMITS:

NOTE: Not applicable

Flash Point:

Non-flammable

Flash Point Method:

TCC

Upper Flammable or Explosive Limit: **None**

Lower Flammable or Explosive Limit: **None**

Auto Ignition Temperature: **None**

Extinguishing Media:

Use foam, dry chemical, or water spray to extinguish.

Hazardous Combustion Byproducts:

None

Fire Fighting Instructions:

After water has flashed off, residue may smolder or burn. Use foam, dry chemical, or water spray to extinguish.



[TOP](#)

SECTION 5 : Health Hazards

Applies to All Ingredients:

Potential Health Effects:

Eye Contact:

NATURE OF HAZARD: May cause temporary discomfort, but does not injure eye tissue.

Skin Contact:

NATURE OF HAZARD: None

Inhalation:

NATURE OF HAZARD: None

Ingestion:

NATURE OF HAZARD: Product has low order of oral toxicity. Ingestion of large quantities may cause gastrointestinal irritation and/or nausea.

WORKPLACE EXPOSURE LIMITS:

THE FOLLOWING OCCUPATIONAL EXPOSURE LIMITS ARE RECOMMENDED: None

PRECAUTIONS:

SPECIAL PRECAUTIONS: Keep out of reach of children.

PERSONAL PROTECTION: None required

VENTILATION: Normal room ventilation is sufficient.



TOP

SECTION 6 : Emergency And First Aid Procedures

Eye Contact:

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

Skin Contact:

Wash with soap and water. Remove grossly contaminated clothing including shoes. Launder before reuse.

Inhalation:

Seek fresh air.

Ingestion:

Seek medical attention if gastrointestinal irritation persists.



TOP

SECTION 7 : Reactivity Data

Chemical Stability:

Stable.

Conditions to Avoid:

Avoid strong oxidizers and materials that react with water.

Instability: Not applicable.

Incompatibilities with Other Materials:

MATERIALS TO AVOID: Avoid strong oxidizers and materials that react with water.

Hazardous Polymerization:

Will not occur.

Hazardous Decomposition Products:

None.



TOP

SECTION 8 : Precautions For Safe Handling

Handling:

General: Keep containers closed when not being used.

Electrostatic Accumulation Hazard: None

Storage:

Storage Temperature, deg F: Ambient

Loading/Unloading Temperature, deg F: Ambient

Storage/Transport Pressure, mmHg: Atmospheric

VISC. At Loading/Unloading Temp: 10,000 cPS at 25 deg C

Special Handling Procedures:

SPECIAL PRECAUTIONS: Keep out of reach of children.

SPECIAL PRECAUTIONS: Keep out of reach of children.

DOT Shipping Name:

Not regulated

DOT Hazard Class: Not regulated

DOT Identification Number: Not available



TOP

SECTION 9: Control Measures

Ventilation System:

Normal room ventilation is sufficient.

Personal Protective Equipment

Routine Handling:

PERSONAL PROTECTION: None required

Exposure Limits:

WORKPLACE EXPOSURE LIMITS:

THE FOLLOWING OCCUPATIONAL EXPOSURE LIMITS ARE RECOMMENDED: None



TOP

SECTION 10: Other Information

Applies to all ingredients:

TSCA 8(b): Inventory Status

The ingredients in this product are listed on the TSCA Inventory.

Section 304:

CERCLA: If this product is accidentally spilled, it is not subject to any special reporting under the requirements of the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA).

Section 312 Hazard Category:

SARA TITLE III: Under the provisions of TITLE III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories: Not hazardous

OSHA 29 CFR 1200:

This product is not hazardous as defined in 29 CFR1910.1200.

Canada WHMIS:

WHMIS - CANADA: This product is not listed in Canada's Workplace Hazardous Materials Information System (WHMIS).

HMIS:

Health Hazard: 0

Fire Hazard: 0

Reactivity: 0

NFPA:

Fire Hazard: 0

Health: 0

Reactivity: 0

MSDS Revision Date:

January 28, 2010

Supersedes: September 2, 2009

Supersedes: May 6, 2008

MSDS Author:

CONTACT: Larry Joe Steeley, Jr.

Disclaimer:

The information provided herein was believed to be accurate at the time of preparation and prepared from a compilation of sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of this product, and to determine the suitability of the product for its intended use.

Copyright:

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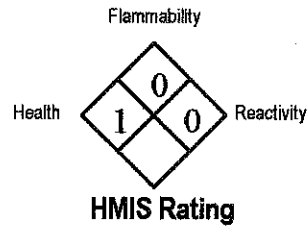
HAZARD RATING SYSTEMS:

This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)
National Fire Protection Association (NFPA 704)
Identification of the Fire Hazards of Materials

NPCA-HMIS:
Protection: None

KEY:
4 - Severe
3 - Serious
2 - Moderate
1 - Slight
0 - Minimal

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MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label) Aqua-Gel® CW Wire Pulling Lubricant		CATALOG NUMBER All "31" Series
MANUFACTURER'S NAME IDEAL INDUSTRIES, INC.		EMERGENCY TELEPHONE NO. (815) 895-5181
ADDRESS (Number, Street, City, State, Zip Code) Becker Place, Sycamore, IL 60178		
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) None		
CHEMICAL DESCRIPTION Polymer-based Mixture	FORMULA Proprietary	

SECTION I - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)*	Listed as a carcinogen in NTP, IARC or OSHA 1910(z) (specify)
7732-18-5	<45	Water	No
4080-31-3	<0.1	2-Bromo-2-Nitropropane 1,3 Diol	No
25322-68-3	<60	Polyethylene Glycol	No
124-68-5	<1	Amino-Methyl-Propanol	No
102-71-6	<0.5	Triethanloamine	No
10043-35-3, 102-71-6, 141-43-5, 165445-22-7, 693-23-2	<1	Proprietary Mixture of Boric Acid ,TEA, MEA, Succinic Acid Salt Ester, Dodecanedioic Acid	No
605-254-72	<0.01	Red Pigment	No

SECTION II - PHYSICAL DATA

BOILING POINT 212 °F 100 °C	SPECIFIC GRAVITY (H ₂ O=1) 1.10	PERCENT VOLATILE BY VOLUME (%) <45
SOLUBILITY IN WATER Infinite	pH = 7.5 - 8.5	PERCENT SOLID BY WEIGHT (%) -60
APPEARANCE AND ODOR Pink gel, mild odor	IS MATERIAL: LIQUID SOLID GEL GAS PASTE	

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT None	method used C.O.C	FLAMMABLE LIMITS	LEL None	UEL None
EXTINGUISHING MEDIA Use extinguishing media suitable for surrounding materials				
SPECIAL FIRE FIGHTING PROCEDURES None				
UNUSUAL FIRE AND EXPLOSION HAZARDS None				

* None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazard's Communication Standard 29 C. F. R 1910.1200

SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE - Conditions to Avoid	None normally expected. Upon prolonged contact may cause temporary eye
THRESHOLD LIMIT VALUE	N.E.
PRIMARY ROUTES OF ENTRY Inhalation <input type="checkbox"/> Skin Contact <input checked="" type="checkbox"/> Other (specify)	
EMERGENCY FIRST AID PROCEDURES	
SKIN CONTACT:	Wash with soap and water for 15 minutes.
EYE CONTACT:	Flush with water for 15 minutes. Inhalation- Move to fresh air.
INGESTION:	Administer water or milk. Consult physician or local poison control center.

SECTION V - REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID	Avoid prolonged storage at temperatures exceeding 180 F.
	STABLE		
INCOMPATIBILITY (materials to avoid)			
Avoid Strong oxidizers and nitrates			
HAZARDOUS DECOMPOSITION PRODUCTS:			
Oxides of carbon and nitrogen			
HAZARDOUS POLYMERIZATION	MAY OCCUR	CONDITIONS TO AVOID	None
	WILL NOT OCCUR		

SECTION VI - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Wipe up, shovel or vacuum spilled material.
	Clean up spills immediately as they can be dangerously slippery.
WASTE DISPOSAL METHOD	Comply with Federal, state and local regulations for solid landfill.
CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)	N/A
RCRA HAZARDOUS WASTE NO. (40CFR 261.33)	N/A
VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)	4.1 gms / ltr
^g Theoretical _____ lb/gal	N/A
^l Analytical _____ lb/gal	N/A

SECTION VII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)			
None normally required			
VENTILATION	LOCAL EXHAUST (Specify Rate)	None	SPECIAL
	MECHANICAL (General) (Specify Rate)	Recommended in closed areas	OTHER
PROTECTIVE GLOVES (specify type)		EYE PROTECTION (specify type)	
None normally needed-Neoprene if necessary		Safety glasses or splash goggles	
OTHER PROTECTIVE EQUIPMENT			
Eye fountain in work area is recommended			

SECTION VIII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store at temperatures between -40 - +180 F
OTHER PRECAUTIONS	Keep away from children, infants and pets.

SECTION IX - ADDITIONAL INFORMATION

Do not mix with nitrites. Under extreme temperatures, contact with nitrites could result in the formation of nitrosamines which are potential carcinogens.
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N/A = Not Applicable, N.E. = None Established

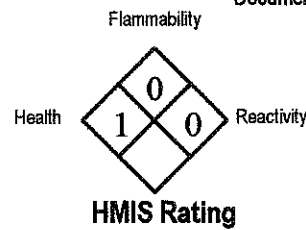
THIS MATERIAL SAFETY DATA SHEET PREPARED BY:

NAME	James R. MacMurdo	SIGNATURE
TITLE	Manager, Construction Market Dev.	
DATE	11/29/2010	

James R. MacMurdo



Document # 6810-003



MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label) Aqua-Gel® IIP Pourable Wire Pulling Lubricant	CATALOG NUMBER All "31" Series
MANUFACTURER'S NAME IDEAL INDUSTRIES, INC.	EMERGENCY TELEPHONE NO. (815) 895-5181
ADDRESS (Number, Street, City, State, Zip Code) Becker Place, Sycamore, IL 60178	
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) None	
CHEMICAL DESCRIPTION Polymer-based Mixture	FORMULA Proprietary

SECTION I - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)*	Listed as a carcinogen in NTP, IARC or OSHA 1910(z) (specify)
7732-18-5	<95	Water	No
10043-35-3, 102-71-6, 141-43-5, 165445-22-7, 693-23-2	<1	Proprietary Mixture of Boric Acid, TEA, MEA, Succinic Acid Salt Ester, Dodecanedioic Acid	No
52-51-7	<0.1	2-Bromo-2-Nitropropane 1,3 Diol	No
9038-95-3	<10	Oxirane, Methyl-, Polymer With Oxirane, Monobutyl Ether	No
9003-11-6	<5	Poly(oxy-1,2-ethanediyl), a-(1-oxo-9-octadeceny)-w-(1-oxooctadecyl)oxy-	No
3844-45-9 7757-82-6 7647-14-5	<0.01	Blue Pigment	No
1310-58-3	<2	20% Potassium Hydroxide	No

SECTION II - PHYSICAL DATA

BOILING POINT 212 °F 100 °C	SPECIFIC GRAVITY (H ₂ O=1) 0.98	PERCENT VOLATILE BY VOLUME (%) -90
SOLUBILITY IN WATER Infinite	pH = 7.0 - 8.0	PERCENT SOLID BY WEIGHT (%) -10
APPEARANCE AND ODOR Aqua pourable gel, mild color	IS MATERIAL: LIQUID SOLID GEL GAS PASTE	

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT None	method used C.O.C	FLAMMABLE LIMITS	LEL None	UEL None
EXTINGUISHING MEDIA Use extinguishing media for surrounding materials.				
SPECIAL FIRE FIGHTING PROCEDURES None				
UNUSUAL FIRE AND EXPLOSION HAZARDS None				

* None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R 1910.1200

SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE - Conditions to Avoid	None normally expected. Upon prolonged contact may cause temporary eye discomfort.
THRESHOLD LIMIT VALUE	N.E.
PRIMARY ROUTES OF ENTRY Inhalation <input type="checkbox"/> Skin Contact <input checked="" type="checkbox"/> Other (specify)	
EMERGENCY FIRST AID PROCEDURES	
SKIN CONTACT:	Wash with soap and water.
EYE CONTACT:	Flush with water.
INGESTION:	Do not induce vomiting. Consult physician or local poison control center.

SECTION V - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Avoid prolonged storage at temperatures exceeding 190 F.
INCOMPATIBILITY (materials to avoid)			
Avoid strong oxidizers and nitrites.			
HAZARDOUS DECOMPOSITION PRODUCTS:			
In the unlikely event of combustion or dried residue, oxides of carbon and nitrogen may be released.			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	None

SECTION VI - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Wipe up, shovel or vacuum spilled material. Clean up spills immediately as they can be dangerously slippery.
WASTE DISPOSAL METHOD	Comply with Federal, state and local regulations for solid landfill.
CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)	N/A
RCRA HAZARDOUS WASTE NO. (40CFR 261.33)	N/A
VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)	1.2 gms / liter
* Theoretical _____ lb/gal	N/A
† Analytical _____ lb/gal	N/A

SECTION VII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)	None normally required.		
VENTILATION	LOCAL EXHAUST (Specify Rate)	None	SPECIAL None
	MECHANICAL (General) (Specify Rate)	Recommended in closed areas.	OTHER None
PROTECTIVE GLOVES (specify type)	None normally needed -Neoprene if necessary		
EYE PROTECTION (specify type)	None normally required. Safety glasses or splash goggles recommended.		
OTHER PROTECTIVE EQUIPMENT	Eye fountain in work area is recommended but not necessary.		

SECTION VIII - SPECIAL PRECAUTIONS

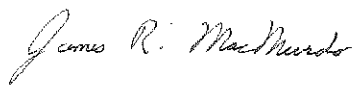
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store at temperatures between 40 -180 F. Avoid freezing.
OTHER PRECAUTIONS	Keep away from children, infants and pets.

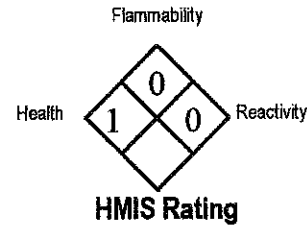
SECTION IX - ADDITIONAL INFORMATION

Extreme temperatures of combustion or burning and contact with nitrites could result in the formation of nitrosamines which are potential carcinogens. This condition is unlikely to occur.

N/A = Not Applicable, N.E. = None Established

THIS MATERIAL SAFETY DATA SHEET PREPARED BY:

NAME	James R. MacMurdo	SIGNATURE 
TITLE	Mgr., Construction Market Development	
DATE	9/21/2010	



MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label) Aqua-Gel® II Utility Cable Pulling Lubricant	CATALOG NUMBER All "31" Series
MANUFACTURER'S NAME IDEAL INDUSTRIES, INC.	EMERGENCY TELEPHONE NO. (815) 895-5181
ADDRESS (Number, Street, City, State, Zip Code) Becker Place, Sycamore, IL 60178	
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) None	
CHEMICAL DESCRIPTION Polymer-based Mixture	FORMULA Proprietary

SECTION I - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)*	Listed as a carcinogen in NTP, IARC or OSHA 1910(z) (specify)
7732-18-5	<90	Water	No
9038-95-3	<10	Oxirane, Methyl-, Polymer With Oxirane, Monobutyl Ether	No
9003-11-6	<5	Polyoxypropylene-polyoxyethylene Block Copolymer	No
102-71-6, 7732-18-5, 10246-68-1, 22919-56-8, 64665-57-2, 693-23-2	<1	Proprietary Mixture of Ethanol, 2,2',2" Nitrilotris; Water; Nonanoic acid; Triethanolamine salt, Caprylic acid; triethanolamine salt; 1H-Benzotriazole, 4-methyl-,sodium salt; Dodecanedioic acid	No
1310-58-3	<2	20% Potassium Hydroxide	No
52-51-7	<0.1	2-Bromo-2-Nitropropane 1,3 Diol	No
3844-45-9 7757-82-6 7647-14-5	<0.1	Blue Pigment	No

SECTION II - PHYSICAL DATA

BOILING POINT 212 °F 100 °C	SPECIFIC GRAVITY (H ₂ O=1) 0.98	PERCENT VOLATILE BY VOLUME (%) <90
SOLUBILITY IN WATER Infinite	pH = 7.0 - 8.0	PERCENT SOLID BY WEIGHT (%) ~10
APPEARANCE AND ODOR Clear blue gel, mild odor	IS MATERIAL: LIQUID SOLID (GEL) GAS PASTE	

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT None	method used C.O.C	FLAMMABLE LIMITS	LEL None	UEL None
EXTINGUISHING MEDIA Use extinguishing media suitable for surrounding materials.				
SPECIAL FIRE FIGHTING PROCEDURES None				
UNUSUAL FIRE AND EXPLOSION HAZARDS None				

* None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R 1910.1200

SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE - Conditions to Avoid	None normally expected. Upon prolonged contact, may cause temporary eye discomfort.
THRESHOLD LIMIT VALUE	N.E.
PRIMARY ROUTES OF ENTRY Inhalation <input type="checkbox"/> Skin Contact <input checked="" type="checkbox"/> Other (specify)	
EMERGENCY FIRST AID PROCEDURES	
SKIN CONTACT:	Wash with soap and water.
EYE CONTACT:	Flush with water.
INGESTION:	Do not induce vomiting. Consult physician or local poison control center.

SECTION V - REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID
	STABLE	
Avoid prolonged storage at temperatures exceeding 190 F.		
INCOMPATIBILITY (materials to avoid)		
Avoid strong oxidizers and nitrites.		
HAZARDOUS DECOMPOSITION PRODUCTS:		
In the unlikely event of combustion of dried residue, oxides and nitrogen may be released.		
HAZARDOUS POLYMERIZATION	MAY OCCUR	CONDITIONS TO AVOID
	WILL NOT OCCUR	
None		

SECTION VI - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Wipe up, shovel or vacuum spilled material. Clean up spills immediately as they can be dangerously slippery.
WASTE DISPOSAL METHOD	Comply with Federal, state and local regulations for solid landfill.
CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)	N/A
RCRA HAZARDOUS WASTE NO. (40CFR 261.33)	N/A
VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)	1.7 gms / liter
^Q Theoretical _____ lb/gal	N/A
^P Analytical _____ lb/gal	N/A

SECTION VII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)	None normally required.			
VENTILATION	LOCAL EXHAUST (Specify Rate)	None	SPECIAL	None
	MECHANICAL (General) (Specify Rate)	Recommended in closed areas.	OTHER	None
PROTECTIVE GLOVES (specify type)	None normally needed - Neoprene if necessary	EYE PROTECTION (specify type)	None normally required. Safety glasses or splash goggles recommended.	
OTHER PROTECTIVE EQUIPMENT	Eye fountain in work area is recommended but not necessary.			

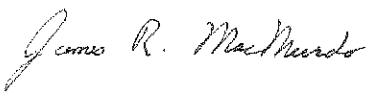
SECTION VIII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store at temperatures between 40 - 180 F. Avoid freezing.
OTHER PRECAUTIONS	Keep away from children, infants and pets.

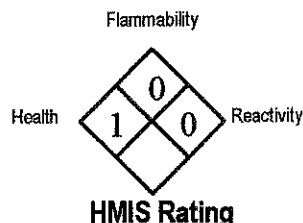
SECTION IX - ADDITIONAL INFORMATION

Extreme temperatures of combustion or burning and contact with nitrites could result in the formation of nitrosamines which are potential carcinogens. This condition is unlikely to occur.
N/A = Not Applicable, N.E. = None Established

THIS MATERIAL SAFETY DATA SHEET PREPARED BY:

NAME	James R. MacMurdo	SIGNATURE
TITLE	Mgr., Construction Market Development	
DATE	01/11/2011	
		

Document # 6810-004



MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label) ClearGlide™ Wire Pulling Lubricant	CATALOG NUMBER All "31" Series
MANUFACTURER'S NAME IDEAL INDUSTRIES, INC.	EMERGENCY TELEPHONE NO. (815) 895-5181
ADDRESS (Number, Street, City, State, Zip Code) Becker Place, Sycamore, IL 60178	
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) None	
CHEMICAL DESCRIPTION Polymer-based Mixture	FORMULA Proprietary

SECTION I - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)*	Listed as a carcinogen in NTP, IARC or OSHA 1910(z) (specify)
7732-18-5	<98	Water	No
6440-58-0	<1	DMDM Hydantoin	No
9038-95-3	<5	Oxirane, Methyl-, Polymer With Oxirane, Monobutyl Ether	No
9003-11-6	<1	Amino-Methyl-Propanol	No
25322-68-3	<1	Polyethylene Glycol	No
9003-01-4	<1	Carbomer Thickener	No
68037-64-9	<1	Silicone Glycol Blend	No

SECTION II - PHYSICAL DATA

BOILING POINT 212°F °C	SPECIFIC GRAVITY (H ₂ O=1) 1.09	PERCENT VOLATILE BY VOLUME (%) <98
SOLUBILITY IN WATER Infinite	pH = 7.0 - 8.0	PERCENT SOLID BY WEIGHT (%) ~5
APPEARANCE AND ODOR Clear, colorless gel, slight odor		IS MATERIAL: LIQUID SOLID GEL GAS PASTE

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT None	method used C.O.C	FLAMMABLE LIMITS	LEL None	UEL None
EXTINGUISHING MEDIA Use extinguishing media suitable for surrounding materials.				
SPECIAL FIRE FIGHTING PROCEDURES None				
UNUSUAL FIRE AND EXPLOSION HAZARDS None				

* None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R 1910.1200

SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE - Conditions to Avoid	None normally expected. Upon prolonged contact, may cause temporary eye discomfort.
THRESHOLD LIMIT VALUE	N/E
PRIMARY ROUTES OF ENTRY Inhalation <input type="checkbox"/> Skin Contact <input checked="" type="checkbox"/> Other (specify)	
EMERGENCY FIRST AID PROCEDURES	
SKIN CONTACT:	Wash with soap and water for 15 minutes
EYE CONTACT:	Flush with water for 15 minutes. Inhalation - Move to fresh air
INGESTION:	Administer water or milk. Consult physician or local poison control center

SECTION V - REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID
	STABLE	
INCOMPATIBILITY (materials to avoid)		Avoid strong oxidizers and nitrites
HAZARDOUS DECOMPOSITION PRODUCTS:		Oxides of carbon, nitrogen and silicone
HAZARDOUS POLYMERIZATION	MAY OCCUR	CONDITIONS TO AVOID
	WILL NOT OCCUR	

SECTION VI - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Wipe up, shovel or vacuum spilled material. Clean up spills immediately as they can be dangerously slippery.
WASTE DISPOSAL METHOD	Comply with Federal, state or local regulations for solid landfill
CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)	N/A
RCRA HAZARDOUS WASTE NO. (40CFR 261.33)	N/A
VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)	17.4 gms / liter
^g Theoretical _____ lb/gal	N/A
^g Analytical _____ lb/gal	N/A

SECTION VII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)	None normally required	
VENTILATION	LOCAL EXHAUST (Specify Rate)	None
	MECHANICAL (General) (Specify Rate)	Recommended in closed areas.
	SPECIAL	None
	OTHER	None
PROTECTIVE GLOVES (specify type)	None normally	
EYE PROTECTION (specify type)	Safety glasses or splash goggles.	
OTHER PROTECTIVE EQUIPMENT	Eye fountain in work area is recommended	

SECTION VIII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store at temperatures between 40 - 180 F. Avoid freezing
OTHER PRECAUTIONS	Keep away from children, infants and pets

SECTION IX - ADDITIONAL INFORMATION

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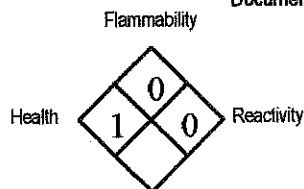
N/A = Not Applicable, N.E. = None Established

THIS MATERIAL SAFETY DATA SHEET PREPARED BY:

NAME	James R. MacMurdo	SIGNATURE <i>James R. MacMurdo</i>
TITLE	Manager, Construction Market Dev.	
DATE	11/29/2010	



Document # 6810-007



HMIS Rating
 WHMIS Hazard
 Class: Non-Hazardous

MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label) VELOCITY™ Cable Pulling Lubricant		CATALOG NUMBER All "31" Series
MANUFACTURER'S NAME IDEAL INDUSTRIES, INC.		EMERGENCY TELEPHONE NO. (815) 895-5181
ADDRESS (Number, Street, City, State, Zip Code) Becker Place, Sycamore, IL 60178		
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) None		
CHEMICAL DESCRIPTION Polymer-based Mixture	FORMULA Proprietary	

SECTION I - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)*	Listed as a carcinogen in NTP, IARC or OSHA 1910(z) (specify)
7732-18-5	<98	Water	No
26062-79-3	<1	Diallyldimethylammonium chloride 20% aqueous solution	No
26590-05-6	<5	Poly(2-propene-1-aminium,N-dimethyl-N-2-propenyl chloride-co-acrylamide)	No
57-55-6	<0.5	Propylene Glycol	No
8042-47-5 24838-91-8	<1	Acrylamide Sodium Acrylate Copolymer with Trideceth-6	No
52-51-7	<0.1	2-Bromo-2-Nitropropane 1,3 Diol	No

SECTION II - PHYSICAL DATA

BOILING POINT 212°F 100°C	SPECIFIC GRAVITY (H ₂ O=1) 0.98	PERCENT VOLATILE BY VOLUME (%) <90
SOLUBILITY IN WATER Moderate	pH = 6.50 - 8.0	PERCENT SOLID BY WEIGHT (%) 5
APPEARANCE AND ODOR Ivory translucent gel	IS MATERIAL: LIQUID SOLID GEL GAS PASTE POWDER	

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT None	method used C.O.C	FLAMMABLE LIMITS	LEL None	UEL None
EXTINGUISHING MEDIA Use extinguishing media suitable for surrounding materials				
SPECIAL FIRE FIGHTING PROCEDURES Self-contained respiratory protection should be provided for fire fighters. Keep fire exposed containers cool with water.				
UNUSUAL FIRE AND EXPLOSION HAZARDS None				

* None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R 1910.1200

SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE - Conditions to Avoid
 None normally expected. Upon prolonged contact may cause temporary eye discomfort.

THRESHOLD LIMIT VALUE
 N.E.

PRIMARY ROUTES OF ENTRY Inhalation Skin Contact Other (specify)

EMERGENCY FIRST AID PROCEDURES
 SKIN CONTACT: Wash with soap and water for 15 minutes
 EYE CONTACT: Flush with water for 15 minutes. Inhalation - Move to fresh air
 INGESTION: Induce vomiting. Consult physician or local poison control center

SECTION V - REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID
	STABLE	
		X

INCOMPATIBILITY (materials to avoid)
 Avoid strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS:
 Excessive heat and burning may release oxides of carbon and nitrogen

HAZARDOUS POLYMERIZATION	MAY OCCUR	CONDITIONS TO AVOID
	WILL NOT OCCUR	
		X

SECTION VI - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
 Wipe up, shovel or vacuum spilled material. Clean up spills immediately as they can be dangerously slippery.

WASTE DISPOSAL METHOD
 Comply with Federal, state and local regulations for solid landfill

CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)
 None Required

RCRA HAZARDOUS WASTE NO. (40CFR 261.33)
 None Required

VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)
 1.7 gms / liter

Theoretical lb/gal N/A Analytical lb/gal N/A

SECTION VII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)
 None normally required

VENTILATION	LOCAL EXHAUST (Specify Rate)	None	SPECIAL	None
	MECHANICAL (General) (Specify Rate)	Recommended in closed areas	OTHER	None

PROTECTIVE GLOVES (specify type)
 None normally needed - Neoprene if necessary

EYE PROTECTION (specify type)
 Safety glasses or splash goggles

OTHER PROTECTIVE EQUIPMENT
 Eye fountain in work area is recommended

SECTION VIII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
 Store at temperatures between 40 - 120° F. Avoid freezing

OTHER PRECAUTIONS
 Keep away from children, infants and pets

SECTION IX - ADDITIONAL INFORMATION

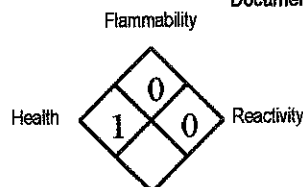
If material is used in extreme heat (>120° F), prolonged and repeated exposure could pose a risk of pulmonary disease. Exposure below mist TLV (5mg/m) appears to be without risk.
 N/A = Not Applicable, N.E. = None Established

THIS MATERIAL SAFETY DATA SHEET PREPARED BY:

NAME	James R. MacMurdo	SIGNATURE <i>James R. MacMurdo</i>
TITLE	Mgr., Corporate Quality Systems	
TE	12-6-2011	



Document # 6810-009



HMIS Rating
WHMIS Hazard
Class: Non-Hazardous

MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label) YELLOW 77[®] Wire Pulling Lubricant	CATALOG NUMBER All "31" Series
MANUFACTURER'S NAME IDEAL INDUSTRIES, INC.	EMERGENCY TELEPHONE NO. (815) 895-5181
ADDRESS (Number, Street, City, State, Zip Code) Becker Place, Sycamore, IL 60178	
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) None	
CHEMICAL DESCRIPTION Water-Wax Emulsion	FORMULA Proprietary

SECTION I - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)*	Listed as a carcinogen in NTP, IARC or OSHA 1910(z) (specify)
7732-18-5	<90	Water	No
64742-43-4	<5	Paraffin Wax	No
8009-03-8	<3	Petrolatum	No
64742-53-6	<3	Napthenic Mineral Oil (See *A)	No
9005-08-7	<4	Polyethylene Glycol Ester	No
61791-44-4	<1	Ethoxylated Tallow Amine	No
25265-71-8	<0.1	Perfume	No
8042-47-5 24838-91-8	<1	Acrylamide Sodium Acrylate Copolymer with Trideceth-6	No
52-51-7	<0.1	Antimicrobial Agent	No
6358-31-2	<0.1	Yellow Pigment	No

SECTION II - PHYSICAL DATA

BOILING POINT 212°F 100°C	SPECIFIC GRAVITY (H ₂ O=1) 0.98	PERCENT VOLATILE BY VOLUME (%) <90
SOLUBILITY IN WATER Moderate	pH = 7.0 - 8.5	PERCENT SOLID BY WEIGHT (%) ~20
APPEARANCE AND ODOR Yellow paste, slight perfume odor	IS MATERIAL: LIQUID SOLID GEL GAS PASTE POWDER	

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT None	method used C.O.C	FLAMMABLE LIMITS	LEL None	UEL None
EXTINGUISHING MEDIA Use extinguishing media suitable for surrounding materials.				
SPECIAL FIRE FIGHTING PROCEDURES Self-contained respiratory protection should be provided for fire fighters. Keep fire exposed containers cool with water.				
UNUSUAL FIRE AND EXPLOSION HAZARDS None				

* None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R. 1910.1200
*A Oil is Severely hydrotreated with a polymorphonuclear content at less than 0.1% and meets OSHA 29 C.F.R. 1910.1200.

SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE - Conditions to Avoid	None normally expected Upon prolonged contact may cause temporary eye discomfort.
THRESHOLD LIMIT VALUE	N.E.
PRIMARY ROUTES OF ENTRY Inhalation <input type="checkbox"/> Skin Contact <input checked="" type="checkbox"/> Other (specify)	
EMERGENCY FIRST AID PROCEDURES	
SKIN CONTACT:	Wash with soap and water for 15 minutes
EYE CONTACT:	Flush with water for 15 minutes Inhalation - Move to fresh air
INGESTION:	Induce vomiting Consult physician or local poison control center

SECTION V - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID	None
	STABLE	X		
INCOMPATIBILITY (materials to avoid)				
Avoid strong oxidizers				
HAZARDOUS DECOMPOSITION PRODUCTS:				
Excessive heat and burning may release oxides of carbon and nitrogen				
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID	None
	WILL NOT OCCUR	X		

SECTION VI - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Wipe up, shovel or vacuum spilled material. Clean up spills immediately as they can be dangerously slippery.
WASTE DISPOSAL METHOD	Comply with Federal, state and local regulations for solid landfill.
CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)	None Required
RCRA HAZARDOUS WASTE NO. (40CFR 261.33)	None Required
VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)	27 gms / liter
^Q Theoretical ____ lb/gal	N/A
^P Analytical ____ lb/gal	N/A

SECTION VII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)	None normally required		
VENTILATION	LOCAL EXHAUST (Specify Rate)	None	SPECIAL None
	MECHANICAL (General) (Specify Rate)	Recommended in closed areas	OTHER None
PROTECTIVE GLOVES (specify type)	None normally needed - Neoprene if necessary		
EYE PROTECTION (specify type)	Safety glasses or splash goggles		
OTHER PROTECTIVE EQUIPMENT	Eye fountain in work area is recommended		

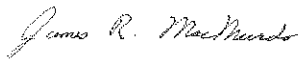
SECTION VIII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store at temperatures between 40 - 120° F. Avoid freezing
OTHER PRECAUTIONS	Keep away from children, infants and pets

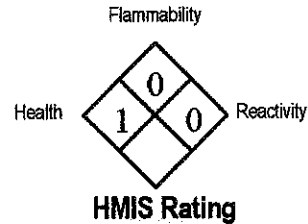
SECTION IX - ADDITIONAL INFORMATION

If material is used in extreme heat (>120° F), prolonged and repeated exposure could pose a risk of pulmonary disease. Exposure below mist TLV (5mg/m) appears to be without risk.
All components used in this product are exempt from the T.O.S.C.A chapter 15 reporting requirements.
N/A = Not Applicable, N.E. = None Established

THIS MATERIAL SAFETY DATA SHEET PREPARED BY:

NAME	James R. MacMurdo	SIGNATURE 
TITLE	Mgr., Corporate Quality Systems	
DATE	12/6/2011	

Document # 6810-008



MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label) YELLOW 77® PLUS Wire Pulling Lubricant	CATALOG NUMBER All "31" Series
MANUFACTURER'S NAME IDEAL INDUSTRIES, INC.	EMERGENCY TELEPHONE NO. (815) 895-5181
ADDRESS (Number, Street, City, State, Zip Code) Becker Place, Sycamore, IL 60178	
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD CLASS NO., HAZARD ID NO. (49 CFR 172.101) None	
CHEMICAL DESCRIPTION Water-Wax Emulsion	FORMULA Proprietary

SECTION I - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)*	Listed as a carcinogen in NTP, IARC or OSHA 1910(z) (specify)
7732-18-5	<90	Water	No
64742-43-4	<5	Paraffin Wax	No
8009-03-8	<5	Petrolatum U.S.P	No
8042-47-5	<5	White Mineral Oil U.S.P (See *A)	No
9005-08-7	<5	Poly(oxy-1,2-ethanediyl), a-(1-oxo-9-octadecenyl)-w-(1-oxooctadecyl)oxy-	No
61791-44-4	<1	Ethanol, 2,2'-iminobis-,N-tallow alkyl derivs	No
8042-47-5 24838-91-8	<1	Acrylamide Sodium Acrylate Copolymer with Trideceth-6	No
1310-58-3	<2	20% Potassium Hydroxide	No
52-51-7	<0.1	2-Bromo-2-Nitropropane 1,3 Diol	No
5989-27-5	<0.1	Lemon Fragrance	No
6358-31-2	<0.1	Butanamide, 2-[(2-methoxy-4-nitrophenyl)azo]-N-(2-methoxyphenyl)-3-oxo-	No
9002-84-0	<0.1	Polytetrafluoroethylene	No

SECTION II - PHYSICAL DATA

BOILING POINT 212°F 100°C	SPECIFIC GRAVITY (H ₂ O=1) 0.93	PERCENT VOLATILE BY VOLUME (%) <90
SOLUBILITY IN WATER Moderate	pH = 6.5 - 7.5	PERCENT SOLID BY WEIGHT (%) ~15
APPEARANCE AND ODOR Yellow creamy paste, slight odor	IS MATERIAL: LIQUID SOLID GEL GAS PASTE POWDER	

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT None	method used C.O.C	FLAMMABLE LIMITS	LEL None	UEL None
EXTINGUISHING MEDIA Use extinguishing media suitable for surrounding materials.				
SPECIAL FIRE FIGHTING PROCEDURES Self-contained respiratory protection should be provided for fire fighters. Keep fire exposed containers cool with water.				
UNUSUAL FIRE AND EXPLOSION HAZARDS None				

- * None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R 1910.1200
- A: Oil is severely hydrotreated with a polymorphonuclear content at less than 0.1% and meets OSHA 29 C.F.R. 1910.1200.

SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE - Conditions to Avoid	
None normally expected. Upon prolonged contact, may cause temporary eye discomfort.	
THRESHOLD LIMIT VALUE	
None established	
PRIMARY ROUTES OF ENTRY: Inhalation <input checked="" type="checkbox"/> Skin Contact <input checked="" type="checkbox"/> Other (specify)	
EMERGENCY FIRST AID PROCEDURES	
SKIN CONTACT: Wash with soap and water for 15 minutes	
EYE CONTACT: Flush with water for 15 minutes. Inhalation: Remove to fresh air.	
INGESTION: Administer water or milk. Consult physician or local poison control center.	

SECTION V - REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID
	STABLE	
INCOMPATIBILITY (materials to avoid)		
Avoid strong oxidizers		
HAZARDOUS DECOMPOSITION PRODUCTS:		
Excessive heat and burning may release oxides of carbon and nitrogen		
HAZARDOUS POLYMERIZATION	MAY OCCUR	CONDITIONS TO AVOID
	WILL NOT OCCUR	

SECTION VI - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	
Wipe up, shovel or vacuum spilled material. Clean up spills immediately as they can be dangerously slippery.	
WASTE DISPOSAL METHOD	
Comply with Federal, state and local regulations for solid landfill.	
CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)	
None Required	
RCRA HAZARDOUS WASTE NO. (40CFR 261.33)	
None Required	
VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)	
2.6 gms / liter	
¹ Theoretical _____ lb/gal	N/A
² Analytical _____ lb/gal	N/A

SECTION VII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)			
None normally required			
VENTILATION	LOCAL EXHAUST (Specify Rate)	None	SPECIAL None
	MECHANICAL (General) (Specify Rate)	Recommended in closed areas	OTHER None
PROTECTIVE GLOVES (specify type)		EYE PROTECTION (specify type)	
None normally needed. -Neoprene if necessary		Safety glasses or splash goggles	
OTHER PROTECTIVE EQUIPMENT			
Eye fountain in work area is recommended			

SECTION VIII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	
Store at temperatures between 40 - 120° F	
OTHER PRECAUTIONS	
Keep away from children, infants and pets	

SECTION IX - ADDITIONAL INFORMATION

If material is used in extreme heat (>120° F), prolonged and repeated exposure could pose a risk of pulmonary disease. Exposure below TLV (5mg/m) appears to be without risk.

N/A = Not Applicable, N.E. = None Established

THIS MATERIAL SAFETY DATA SHEET PREPARED BY:

NAME	James R. MacMurdo	SIGNATURE
TITLE	Mgr., Corporate Quality Systems	
DATE	12-6-2011	

James R. MacMurdo

MSDS Document

Product BOSS® 360 35 Year Sealant Siliconized Latex Caulk

1. Chemical Product and Company Identification

Trade Name of this Product BOSS® 360 35 Year Sealant Siliconized Latex Caulk

Synonyms: 02735WH10, C39012BJB

MSDS ID BOSS360

Manufacturer

Accumetric, LLC

350 Ring Road

Elizabethtown, KY 42701

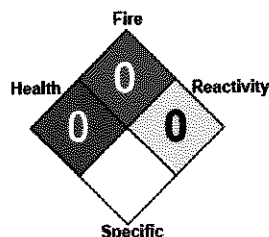
Phone Number

(270) 769-3385

Emergency Phone

CHEMTREC (800) 424-9300

Revision Date 2/9/2011



Health:	0
Fire:	0
Reactivity:	0
Specific	

2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
Calcium Carbonate	471-34-1	35% - 65%	10 mg/m ³	5 mg/m ³	
Vinyl acetate/acrylic copolymer	Proprietary	10% - 30%			
Phthalate plasticizer	Proprietary	1% - 5%			
Distillates (petroleum), hydrotreated middle	64742-46-7	3% - Max	5 mg/m ³	5 mg/m ³	10 mg/m ³

3. Hazard Identification

Eye Contact

Direct contact may cause moderate irritation.

Skin Contact

No significant effects expected from a single short-term exposure.

Inhalation

Trace component and residual monomer may cause headache, nausea, and irritation of the nose, throat, and lungs in poorly ventilated areas.

Ingestion

No significant effects expected from a single short term exposure.

Symptoms of Overexposure

No known applicable information.

Existing Conditions Aggravated by Exposure

No known applicable information.

Health Hazards

The principle volatile component is water. Minor volatile components from the emulsion may cause headache and nausea. Prolonged and repeated skin contact can cause irritation. Treatment of overexposure should be directed at the control of symptoms and clinical condition.

Note

The above listed potential effects are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for detailed toxicology information.

4. First Aid Information

Eye Contact

Immediately flush with large amounts of water. If irritation occurs, seek medical attention.

Skin Contact

Wash affected area with soap and water.

Ingestion

No first aid should be needed.

Inhalation

Remove to fresh air. If symptoms persist, obtain appropriate medical attention.

5. Fire Fighting Measures

Flash Point

Not determined

Extinguishing Media

Alcohol Foam, Carbon Dioxide, Dry Chemical, Foam, Water Fog

Special Fire Fighting Procedures

Non-flammable (aqueous emulsion). After water evaporates, remaining material will burn. Breathing apparatus required when fighting fires in enclosed areas.

Unusual Fire or Explosion Hazards

Product will not burn, but may splatter if temperature exceeds boiling point of water. Dried solids can burn, giving off oxides of carbon.

6. Accidental Release Measures

Steps to be taken in case of spill or release

Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. For small spills, wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled material, even in small quantities, may present a slip hazard. Final cleaning may require the use of steam, solvents or detergents. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur.

Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

7. Handling and Storage

Handling

Avoid breathing vapors in top of shipping container. Keep container closed. Use with adequate ventilation. Avoid contact with skin and clothing. Wash thoroughly after handling.

Storage

Store in a cool dry place. Protect from freezing and excessive heat.

8. Exposure Controls and Personal Protection

Ventilation

Local exhaust ventilation is recommended to maintain vapor level below TLV.

Respiratory Protection

No respiratory protection should be needed with good local ventilation.

Eye Protection

Safety goggles or glasses with side shields are recommended.

Skin Protection

Impervious gloves are suggested.

9. Physical and Chemical Properties

Physical State

Paste

Specific Gravity	1.66
Density lbs/Gal.	13.8
Color/Appearance	Various
Odor	Slight
pH	7.85
Boiling/Cond. Point	100C
Melting/Freezing Point	0C
Solubility	Dilutable in wet stage
Evaporation Rate	Slower than n-Butyl acetate
VOC %	9.8 g/L
Percent Volatile	18.5%
Viscosity	750,000 cPs
Vapor Density	Lighter than air
Vapor Pressure	Not determined

Note

The above information is not intended for use in preparing product specifications. Contact Accumetric LLC before writing specifications.

10. Stability and Reactivity

Chemical Stability

Stable

Hazardous Polymerization

Will not occur

Conditions to Avoid

None known

Materials to Avoid / Incompatibility

None known

11. Toxicological Information

Component Toxicology Information

No known applicable information.

Special Hazard Information on Components

No known applicable information.

12. Ecological Information

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

13. Disposal Considerations

Waste Disposal Method

We make no guarantee or warranty of any kind that the use or disposal of this product complies with all local, state, or federal laws. It is also the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable statutes.

This product is not known to be regulated under RCRA regulations. Disposal of unused portions of this product and process waste containing this product should be done only after a careful evaluation and in compliance with all federal, local and state laws.

14. Transportation Information

DOT Road Shipment Information

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

15. Regulatory Information

The contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status

All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

SARA Title III Section 302 Extremely Hazardous Substances

None

SARA Title III Section 304 CERCLA Hazardous Substances

None

SARA Title III Section 313 Toxic Chemicals

None present or none present in regulated quantities.

California Proposition 65

This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm:

None known

16. Other Information

Disclaimer

The data contained herein is based upon information that Accumetric LLC believes to be

reliable. Users of this product have the responsibility to determine that suitability of use and to adopt all necessary precautions to ensure the safety and protection of property and persons involved in said use. All statements to suggestions are made without warranty, expressed or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

MSDS Document

Product **BOSS® 362 100% Acrylic Tub 'N' Tile Caulk**

1. Chemical Product and Company Identification

Trade Name of this Product BOSS® 362 100% Acrylic Tub 'N' Tile Caulk

Synonyms: 02071WH10, 02071CL10, 02071AM10, 03205WH10, C39023CL, C39010AM, C39010WH, C39023WH, C39010CHR, C39010IV, C39010OAK, C39010SAGE, C39010SMP, C39010SR, C39010WN

MSDS ID BOSS362t

Manufacturer

Accumetric, LLC

350 Ring Road

Elizabethtown, KY 42701

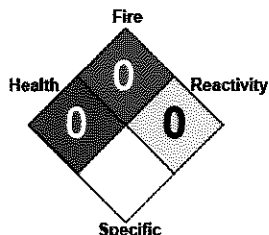
Phone Number

(270) 769-3385

Emergency Phone

CHEMTREC (800) 424-9300

Revision Date 12/17/2009



Health:	0
Fire:	0
Reactivity:	0
Specific	

2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
Calcium Carbonate	471-34-1	35% - 65%	10 mg/m ³	5 mg/m ³	
Vinyl acetate/acrylic copolymer	Proprietary	10% - 20%			
Phthalate plasticizer	Proprietary	5% - 10%			
Acrylic resin	Proprietary	4% - 10%			
Distillates (petroleum), hydrotreated middle	64742-46-7	< 5.0 %	5 mg/m ³	5 mg/m ³	10 mg/m ³
Ethylene Glycol	107-21-1	< 1.0 %	50 mg/m ³	40 ppm	40 ppm

3. Hazard Identification

Health Hazards

The principle volatile component is water. Minor volatile components from the emulsion

may cause headache and nausea. Prolonged and repeated skin contact can cause irritation. Treatment of overexposure should be directed at the control of symptoms and clinical condition.

Eye Contact

Direct contact may cause moderate irritation.

Skin Contact

No significant effects expected from a single short-term exposure.

Inhalation

Trace component and residual monomer may cause headache, nausea, and irritation of the nose, throat, and lungs in poorly ventilated areas.

Ingestion

No significant effects expected from a single short term exposure.

Existing Conditions Aggravated by Exposure

No known applicable information.

Symptoms of Overexposure

No known applicable information.

Note

The above listed potential effects are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for detailed toxicology information.

4. First Aid Information

Eye Contact

Immediately flush with large amounts of water. If irritation occurs, seek medical attention.

Skin Contact

Wash affected area with soap and water.

Inhalation

Remove to fresh air. If symptoms persist, obtain appropriate medical attention.

Ingestion

No first aid should be needed.

5. Fire Fighting Measures

Flash Point

Not determined

Extinguishing Media

Alcohol Foam, Carbon Dioxide, Dry Chemical, Foam, Water Fog

Flammability: TDGR Class

Sensitivity to impact

Sensitivity to static discharge

Special Fire Fighting Procedures

Non-flammable (aqueous emulsion). After water evaporates, remaining material will burn. Breathing apparatus required when fighting fires in enclosed areas.

Unusual Fire or Explosion Hazards

Product will not burn, but may splatter if temperature exceeds boiling point of water. Dried solids can burn, giving off oxides of carbon.

6. Accidental Release Measures

Steps to be taken in case of spill or release

Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. For small spills, wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled material, even in small quantities, may present a slip hazard. Final cleaning may require the use of steam, solvents or detergents. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur.

Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

7. Handling and Storage

Handling

Avoid breathing vapors in top of shipping container. Keep container closed. Use with adequate ventilation. Avoid contact with skin and clothing. Wash thoroughly after handling.

Storage

Store in a cool dry place. Protect from freezing and excessive heat.

8. Exposure Controls and Personal Protection

Engineering Controls

Local Ventilation: Recommended

General Ventilation: Recommended

Eye Protection

Chemical goggles if liquid contact is likely, or safety glasses with side shields.

Skin Protection

Wash at mealtimes and end of shift. Contaminated clothing and shoes should be removed

as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Suitable Gloves:
Silver Shield® 4H®

Respiratory Protection

Use respiratory protection unless adequate exhaust ventilation is provided or exposure assessment demonstrates that exposures are within exposure guidelines. Industrial Hygiene Personnel can assist in judging the adequacy of existing engineering controls.

Suitable Respirator:

General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits as determined by air sampling or are unknown, appropriate respiratory protection should be worn. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Ventilation

Local exhaust ventilation is recommended to maintain vapor level below TLV.

Note

These precautions are for room temperature handling. Use at elevated temperatures or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry (www.SEHSC.com).

9. Physical and Chemical Properties

Physical State	Paste
Specific Gravity	1.56
Color/Appearance	Various
Odor	Slight
pH	7.85
Boiling/Cond. Point	100C
Melting/Freezing Point	0C
Solubility	Dilutable in wet stage
Evaporation Rate	Slower than n-Butyl acetate
VOC %	28 g/L
Percent Volatile	23%
Vapor Density	Lighter than air
Vapor Pressure	Not determined

Note

The above information is not intended for use in preparing product specifications. Contact Accumetric LLC before writing specifications.

10. Stability and Reactivity

Chemical Stability

Stable

Hazardous Polymerization

Will not occur

Conditions to Avoid

None known

Materials to Avoid / Incompatibility

None known

11. Toxicological Information

Special Hazard Information on Components

No known applicable information.

Component Toxicology Information

No known applicable information.

12. Ecological Information

Environmental Effects

Complete information is not yet available.

Environmental Fate and Distribution

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

13. Disposal Considerations

Waste Disposal Method

We make no guarantee or warranty of any kind that the use or disposal of this product complies with all local, state, or federal laws. It is also the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable statutes.

This product is not known to be regulated under RCRA regulations. Disposal of unused portions of this product and process waste containing this product should be done only after a careful evaluation and in compliance with all federal, local and state laws.

14. Transportation Information

DOT Road Shipment Information

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

15. Regulatory Information

The contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status

All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

SARA Title III Section 302 Extremely Hazardous Substances

None

SARA Title III Section 304 CERCLA Hazardous Substances

None

SARA Title III Section 312 Hazard Class

Acute: Yes

Chronic: No

Fire: No

Pressure: No

Reactive: No

SARA Title III Section 313 Toxic Chemicals

None present or none present in regulated quantities.

California Proposition 65

This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm:

None known

16. Other Information

Disclaimer

The data contained herein is based upon information that Accumetric LLC believes to be reliable. Users of this product have the responsibility to determine that suitability of use and to adopt all necessary precautions to ensure the safety and protection of property and persons involved in said use. All statements to suggestions are made without warranty, expressed or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.



AllPurpose-RTV/WL

Material Safety Data Sheet

Document Code: AllPurpose-RTV/WL
Version: 11

Date of Preparation
August 11, 2011

Section 1 - Product and Company Identification

PRODUCT NAME, NUMBERS, & COLORS
All Purpose RTV Silicone Sealant

HMIS CODES
Health 2
Flammability 0
Reactivity 0

WL099110C WL099111C Clear
WL099111B Black
WL099112W White

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS CO.
Consumer Group - Industrial
Cleveland, OH 44115

TELEPHONE NUMBERS and WEBSITES

Regulatory Information

(216) 566-2902

www.paintdocs.com

Medical Emergency

(216) 566-2917

Transportation Emergency for Chemical Emergency ONLY (spill, leak, exposure, fire, or accident)
(800) 424-9300

Section 2 - Composition/Information on Ingredients

% WT.	CAS No.	Ingredient Name
1-5	17689-77-9	Ethyl Triacetoxysilane ACGIH TLV Not Established OSHA PEL Not Established
1-5	4253-34-3	Methyl Triacetoxysilane ACGIH TLV Not Established OSHA PEL Not Established
5-10	7631-86-9	Amorphous Silica. ACGIH TLV TWA 10 mg/m3 as Dust OSHA PEL TWA 6 mg/m3 as Dust
<5	13463-67-7	Titanium Dioxide [in White only] ACGIH TLV TWA 10 mg/m3 as Dust OSHA PEL TWA 10 mg/m3 as Total Dust OSHA PEL TWA 5 mg/m3 as Respirable Fraction
<2	1333-86-4	Carbon Black [in Black only] ACGIH TLV TWA 3.5 mg/m3 OSHA PEL TWA 3.5 mg/m3

NOTE: These products may evolve trace quantities of Acetic Acid during curing.
Exposure limits for Acetic Acid are:

max. 5	64-19-7	Acetic Acid
		ACGIH TLV TWA 10 ppm
		ACGIH TLV STEL 15 ppm
		OSHA PEL TWA 10 ppm

- Continued -

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.

EFFECTS OF OVEREXPOSURE

Irritation of eyes, skin and 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 known.

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

>200 °F

LEL

N.Ap.

UEL

N.Ap.

FLAMMABILITY CLASSIFICATION

Not Applicable

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical

UNUSUAL FIRE AND EXPLOSION HAZARDS

None known.

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 and remove with inert absorbent.

Section 7 – Handling and Storage

DOL STORAGE CATEGORY

Not Applicable

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep container closed when not in use. Store product away from water or moisture. Do not transfer to other containers. 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 breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.

These products 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

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	8 lbs/gal	EVAPORATION RATE	Slower than Ether
SPECIFIC GRAVITY	0.96	VAPOR DENSITY	Heavier than Air
BOILING POINT	N.Ap.	MELTING POINT	N.Av.
VISCOSITY	350,000 cps	SOLUBILITY IN WATER	N.Av.
VOLATILE ORGANICS COMPOUNDS (VOC)			3.0 % by weight

Section 10 – Stability and Reactivity

STABILITY Stable

CONDITIONS TO AVOID -- None known.

INCOMPATIBILITY -- None known.

HAZARDOUS DECOMPOSITION PRODUCTS -- By fire: Carbon Dioxide, Carbon Monoxide, Oxides of Nitrogen, Possibility of Hydrogen Chloride

HAZARDOUS POLYMERIZATION -- Will not occur

Section 11 – Toxicological Information

CHRONIC HEALTH HAZARDS

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.

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				
17689-77-9	Ethyl Triacetoxysilane	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
4253-34-3	Methyl Triacetoxysilane	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
7631-86-9	Amorphous Silica.	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
13463-67-7	Titanium Dioxide.	LC50	RAT	4HR	Not Available
		LD50	RAT		>7500 mg/kg
1333-86-4	Carbon Black	LC50	RAT	4HR	Not Available
		LD50	RAT		>15400 mg/kg
64-19-7	Acetic Acid	LC50	RAT	4HR	Not Available
		LD50	RAT		3310 mg/kg

Section 12 – Ecological Information

ECOTOXICOLOGICAL INFORMATION

No Data Available.

Section 13 – Disposal Considerations

WASTE DISPOSAL METHOD

Waste from these products 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, 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.

Section 15 – Regulatory Information

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

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

TSCA CERTIFICATION

All chemicals in these products are listed, or are exempt from listing, on the TSCA Inventory.

Section 16 – Other Information

NOTE: These products have 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 these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the products. 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

Duct Seal

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name:	Duct Seal	
Other/generic names:	Uniseal 202, 502, 502B DS-110, 130, 510, 530	
Product use:	Sealant for electrical conduit/fixtures.	
Manufacturer:	GB Electrical Inc. 6101 N. Baker Road Milwaukee, WI 53209 1-800-822-9220	In case of emergency, contact 3E Company, 800-360-3220 24 hrs, 7 days/week

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Soft grey solid. Not considered hazardous in normal use or if spilled.

POTENTIAL HEALTH HAZARDS

Skin:	Prolonged contact may cause mild irritation.
Eyes:	Prolonged contact may cause mild irritation.
Inhalation:	No harmful effects anticipated.
Ingestion:	Not considered toxic. Ingestion of large quantities may be harmful.
Delayed effects:	None anticipated.

Ingredients found on one of the OSHA designated carcinogen lists are listed below.

Ingredient Name	NTP Status	IARC Status	OSHA List
No ingredients listed in this section.			

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Weight %
No hazardous ingredients as per the OSHA Hazard Communication Standard or the Canadian WHMIS regulations.	----	----

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.

4. FIRST AID MEASURES

Skin:	Wash with soap and water.
Eyes:	Rinse eyes with running water. If irritation develops, get medical attention.
Inhalation:	Remove to fresh air if discomfort is experienced.
Ingestion:	If swallowed, seek medical attention.
Advice to physician:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Flash Point & Method	> 450 °F (> 232 °C)
Autoignition Temperature:	Not determined
Explosive Limits	Not determined

Material Safety Data Sheet – Duct Seal

Flame Propagation Rate (solids):	Not determined
OSHA Flammability Class:	Not applicable
Extinguishing Media:	Foam, dry chemical, carbon dioxide, water mist or spray.
Unusual Fire And Explosion Hazards:	Vapors generated by fire or decomposition may be hazardous.
Special Fire Fighting Precautions/Instructions:	Wear self contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: Wear proper protective clothing. Pick up spilled product with shovel and place into container for reuse (if uncontaminated) or for disposal.

7. HANDLING AND STORAGE

Normal Handling:	Avoid unnecessary prolonged contact with skin and clothing. Wash well after handling.
Storage Recommendations:	Store in a cool, dry place. Keep containers closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide general ventilation and local exhaust to maintain concentrations of vapors below allowable exposure values.

PERSONAL PROTECTIVE EQUIPMENT

Skin Protection:	Not normally required.
Eye Protection:	Safety glasses recommended as a general practice.
Respiratory Protection:	Not normally required. Use of product in or near high temperature operations (e.g. welding) may require the use of respiratory protection.
Additional Recommendations:	None.

EXPOSURE GUIDELINES

Ingredient Name	ACGIH TLV	OSHA PEL	Other *
No ingredients listed in this section.			

- * = NIOSH REL
- ** = Workplace Environmental Exposure Level (AIHA).
- *** = Biological Exposure Index (ACGIH).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Grey solid
Physical State:	Solid
Molecular Weight:	Mixture
Chemical Formula:	Mixture
Odor:	Negligible
Specific Gravity (water = 1.0):	~2
Solubility In Water (wt. %):	Negligible
Melting Point:	Not determined
Flash Point	> 450 °F (> 232 °C)

Material Safety Data Sheet – Duct Seal

10. STABILITY AND REACTIVITY

Normally Stable? (Conditions To Avoid):	Normally stable.
Incompatibilities:	Strong acids and oxidizing agents may cause reaction or ignite product.
Hazardous Decomposition Products:	Combustion products can be irritating and/or toxic. These may include carbon monoxide and carbon dioxide and organic compounds including aromatic and aliphatic hydrocarbons.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

This product is not considered hazardous.

12. ECOLOGICAL INFORMATION

Specific data on mixture not available. May be harmful if discharged into natural waterways.

13. DISPOSAL CONSIDERATIONS

RCRA

Is the unused product a RCRA hazardous waste if discarded?	No
If yes, the RCRA ID number is:	

OTHER DISPOSAL CONSIDERATIONS: Observe all Federal, State, and Local Environmental regulations.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

14. TRANSPORT INFORMATION

US DOT Proper Shipping Name:	Not regulated
US DOT Hazard Class & Packing Group:	Not regulated
US DOT ID Number:	Not regulated

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA Inventory Status:	All ingredients are listed on the TSCA chemical inventory.
Other TSCA Issues:	None

SARA TITLE III/CERCLA

Reportable Quantities (RQs) and/or Threshold Planning Quantities (TPQs) exist for the following ingredients.

Ingredient Name	SARA/CERCLA RQ (lb)	SARA EHS TPQ (lb)
No ingredients listed in this section.		

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

Material Safety Data Sheet – Duct Seal

SECTION 311 HAZARD CLASS: None

SARA 313 TOXIC CHEMICALS:

The following ingredients are listed as SARA 313 "Toxic Chemicals" and potential subject to annual SARA 313 reporting. Weight percents are found in Section 3.

Ingredient Name	Comment
No ingredients listed in this section.	

STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

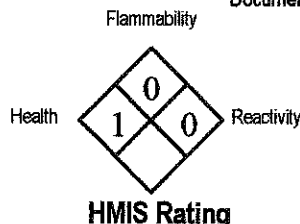
Ingredient Name	Weight %	Comment
No ingredients listed in this section.		

OTHER REGULATORY INFORMATION:

WHMIS Classification (Canada):	As shipped: Not a controlled product. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.
Foreign Inventory Status:	All ingredients listed on Canadian DSL

16. OTHER INFORMATION

Current Issue Date:	February 20, 2006
Previous Issue Date:	January, 2005
Changes To MSDS From Previous Issue Date Are Due To The Following:	New MSDS format.
HMIS (III) Ratings	Health: 0 Flammability: 0 Physical Hazard: 0
NFPA 704 Ratings	Health: 0 Flammability: 0 Instability: 0
MSDS prepared by Gardner Bender technical department.	



MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label) Duct Seal		CATALOG NUMBER 31-601, 31-605
MANUFACTURER'S NAME IDEAL INDUSTRIES, INC.		EMERGENCY TELEPHONE NO. (815) 895-5181
ADDRESS (Number, Street, City, State, Zip Code) Becker Place, Sycamore, IL 60178		
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) None		
CHEMICAL DESCRIPTION Butyl Rubber Composite	FORMULA Proprietary	

SECTION I - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)*	ACHIH TLV	Listed as a carcinogen in NTP, IARC or OSHA 1910(z) (specify)
1317-65-3	<50	Calcium Carbonate	30-60	No
12174-11-7	<10	Magnesium Aluminum Silicate	3-13	No
14808-60-7	<1	Crystalline Quartz Silica	n/a	No
9003-29-6	<10	Butene Polymer	10-20	No
25038-36-2	<10	Synthetic Polymer	0.1-1.0	No
1333-86-4	<.001	Carbon Black	.005-.009	No
2082-79-3	<.001	Antioxidant	.001-.006	No
9004-34-6	<1	Cellulose Fiber	1-10	No
14807-96-6	<10	Aluminum Silicate	15-35	No
61790-12-3	<1	Tall Oil Rosin	1-7	No
64742-53-6	<1	Naphthenic Wax	1-8	No

SECTION II - PHYSICAL DATA

BOILING POINT None °F °C	SPECIFIC GRAVITY (H ₂ O=1) 1.65	PERCENT VOLATILE BY VOLUME (%) 2
SOLUBILITY IN WATER None	pH = N/A	PERCENT SOLID BY WEIGHT (%) ~98
APPEARANCE AND ODOR Dark Gray Putty Mild Rubber Odor		IS MATERIAL: LIQUID GAS SOLID PASTE SOLID

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT 590 °C	method used C.O.C	FLAMMABLE LIMITS	LEL N/E	UEL N/E
EXTINGUISHING MEDIA Use water, foam, carbon dioxide or dry chemical				
SPECIAL FIRE FIGHTING PROCEDURES None known. Firefighters should wear a self-contained breathing apparatus. Oxides of nitrogen and carbon may evolve.				
UNUSUAL FIRE AND EXPLOSION HAZARDS None known				

* None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R 1910.1200

SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE - Conditions to Avoid	N/A
THRESHOLD LIMIT VALUE	See above
PRIMARY ROUTES OF ENTRY Inhalation <input type="checkbox"/> Skin Contact <input checked="" type="checkbox"/> Other (specify)	
EMERGENCY FIRST AID PROCEDURES	
SKIN CONTACT:	If too sensitive, seek medical attention.
EYE CONTACT:	Do not remove, seek medical attention.
INGESTION:	Not likely. If ingested, constipation or blockage may occur. Seek medical attention.

SECTION V - REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID	N/A
	STABLE		X
INCOMPATIBILITY (materials to avoid)		Strong oxidizers, acids, bases.	
HAZARDOUS DECOMPOSITION PRODUCTS:		Oxides of nitrogen and carbon may evolve.	
HAZARDOUS POLYMERIZATION	MAY OCCUR	CONDITIONS TO AVOID	N/A
	WILL NOT OCCUR		X

SECTION VI - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	N/A
WASTE DISPOSAL METHOD:	Comply with Federal, state and local regulations for solid landfill.
CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)	N/A
RCRA HAZARDOUS WASTE NO. (40CFR 261.33)	N/A
VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)	17 grams/liter
* Theoretical _____ lb/gal	N/A
† Analytical _____ lb/gal	

SECTION VII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)	N/A			
VENTILATION	LOCAL EXHAUST (Specify Rate)	N/A	SPECIAL	N/A
	MECHANICAL (General) (Specify Rate)	N/A	OTHER	N/A
PROTECTIVE GLOVES (specify type)	Cotton if needed	EYE PROTECTION (specify type)	Safety glasses or goggles	
OTHER PROTECTIVE EQUIPMENT	For sensitive individuals, protect skin from contact			

SECTION VIII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store in a cool, dry place.
OTHER PRECAUTIONS	Wash hands with soap and water before eating.

SECTION IX - ADDITIONAL INFORMATION

This product contains the following materials that are subject to the reporting requirements of Section 313 of EPCRA: 14808-60-7 Crystalline Quartz Silica - .5%

N/A = Not Applicable, N.E. = None Established

THIS MATERIAL SAFETY DATA SHEET PREPARED BY:

NAME	James R. MacMurdo	SIGNATURE <i>James R. MacMurdo</i>
TITLE	Manager, Corporate Quality Systems	
DATE	01/10/2012	

Material Safety Data Sheet

LOCTITE[®]

Revision Number: 004.0

Issue date: 01/04/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE[®] 222MS[™] THREADLOCKER LOW STRENGTH
Product type: Anaerobic Sealant
Company address:
 Henkel Corporation
 One Henkel Way
 Rocky Hill, Connecticut 06067

IDH number: 135333
Item number: 22221
Region: United States
Contact information:
 Telephone: 860.571.5100
 MEDICAL EMERGENCY Phone: Poison Control Center
 1-877-671-4608 (toll free) or 1-303-592-1711
 TRANSPORT EMERGENCY Phone: CHEMTREC
 1-800-424-9300 (toll free) or 1-703-527-3887
 Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

Physical state:	Liquid	HEALTH:	*2
Color:	Purple	FLAMMABILITY:	1
Odor:	Mild	PHYSICAL HAZARD:	1
		Personal Protection:	See MSDS Section 8

WARNING: CAUSES EYE IRRITATION.
 MAY CAUSE ALLERGIC SKIN REACTION.
 MAY CAUSE SKIN IRRITATION.
 MAY CAUSE RESPIRATORY TRACT IRRITATION.

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

Inhalation:	May cause respiratory tract irritation.
Skin contact:	May cause allergic skin reaction. May cause skin irritation.
Eye contact:	Contact with eyes will cause irritation.
Ingestion:	Not expected to be harmful by ingestion.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

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

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Polyglycol dimethacrylate	25852-47-5	30 - 60
Oleic acid 5.5EO	9004-96-0	30 - 60
Saccharin	81-07-2	1 - 5
Silica, amorphous, fumed, crystal-free	112945-52-5	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
Propanediol-1,2	57-55-6	1 - 5

IDH number: 135333

Product name: LOCTITE[®] 222MS[™] THREADLOCKER LOW STRENGTH
 Page 1 of 5

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If symptoms develop and persist, get medical attention.
Skin contact:	Wash with soap and water. Remove contaminated clothing and footwear. Wash clothing before reuse. If symptoms develop and persist, get medical attention.
Eye contact:	Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention.
Ingestion:	Do not induce vomiting. Keep individual calm. Get medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	> 93.3 °C (> 199.94 °F) Tagliabue closed cup
Autoignition temperature:	Not available
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Extinguishing media:	Foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow product to enter sewer or waterways.
Clean-up methods:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Handling:	Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Use only with adequate ventilation.
Storage:	For safe storage, store at or below 38 °C (100.4 °F) Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyglycol dimethacrylate	None	None	None	None
Oleic acid 5.5EO	None	None	None	None
Saccharin	None	None	None	None
Silica, amorphous, fumed, crystal-free	10 mg/m ³ TWA Inhalable dust. 3 mg/m ³ TWA Respirable fraction.	20 MPPCF TWA 0.8 mg/m ³ TWA	None	None
Cumene hydroperoxide	None	None	1 ppm (6 mg/m ³) TWA (SKIN)	None
Propanediol-1,2	None	None	10 mg/m ³ TWA Aerosol.	None

Engineering controls: No specific ventilation requirements noted, but forced ventilation may still be required if concentrations exceed occupational exposure limits.

Respiratory protection: Use a NIOSH approved supplied air respirator with an organic cartridge if the potential to exceed established exposure limits exists.

Eyeface protection: Safety goggles or safety glasses with side shields.

Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact. Neoprene gloves. Butyl rubber gloves. Natural rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Purple
Odor: Mild
Odor threshold: Not available
pH: Not applicable
Vapor pressure: < 5 mm hg (27 °C (80.6 °F))
Boiling point/range: > 149 °C (> 300.2 °F)
Melting point/ range: Not available
Specific gravity: 1.05
Vapor density: Not available
Flash point: > 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flammable/Explosive limits - lower: Not available
Flammable/Explosive limits - upper: Not available
Autoignition temperature: Not available
Evaporation rate: Not available
Solubility in water: Slight
Partition coefficient (n-octanol/water): Not available
VOC content: 0.19 %; 1.79 g/l

10. STABILITY AND REACTIVITY

Stability: Stable

Hazardous reactions: Will not occur.

Hazardous decomposition products: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

Incompatible materials: Strong oxidizing agents.

Conditions to avoid: See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).

11. TOXICOLOGICAL INFORMATION

Acute oral product toxicity: LD50 (rat) > 10,000 mg/kg

Acute dermal product toxicity: LD50 (rabbit) > 5,000 mg/kg

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyglycol dimethacrylate	No	No	No
Oleic acid 5.5EO	No	No	No
Saccharin	No	No	No
Silica, amorphous, fumed, crystal-free	No	No	No
Cumene hydroperoxide	No	No	No
Propanediol-1,2	No	No	No

Hazardous components	Health Effects/Target Organs
Polyglycol dimethacrylate	Irritant, Allergen
Oleic acid 5.5EO	Irritant
Saccharin	No Target Organs
Silica, amorphous, fumed, crystal-free	Nuisance dust
Cumene hydroperoxide	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Propanediol-1,2	Irritant

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The shipping classifications in this sections are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification: None above reporting de minimus

CERCLA/SARA Section 302 EHS: None above reporting de minimus
Hydroquinone (CAS# 123-31-9). Ethylene oxide (CAS# 75-21-8).

CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Cumene hydroperoxide (CAS# 80-15-9).
This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Saccharin (CAS# 81-07-2). Cumene hydroperoxide (CAS# 80-15-9).

California Proposition 65: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

WHMIS hazard class: D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: 1

Prepared by: Kyra Kozak Woods, Manager, Regulatory Affairs

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Material Safety Data Sheet

LOCTITE[®]

Revision Number: 005.5

Issue date: 12/22/2010

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE[®] 242[®] THREADLOCKER
Product type: Anaerobic Sealant

IDH number: 135355
Item number: 24231
Region: United States

Company address:
 Henkel Corporation
 One Henkel Way
 Rocky Hill, Connecticut 06067

Contact information:
 Telephone: 860.571.5100
 MEDICAL EMERGENCY Phone: Poison Control Center
 1-877-671-4608 (toll free) or 1-303-592-1711
 TRANSPORT EMERGENCY Phone: CHEMTREC
 1-800-424-9300 (toll free) or 1-703-527-3887
 Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

		HMSIS:	
Physical state:	Liquid	HEALTH:	*2
Color:	Blue	FLAMMABILITY:	1
Odor:	Mild	PHYSICAL HAZARD:	1
		Personal Protection:	See MSDS Section 8
WARNING:	CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE RESPIRATORY TRACT IRRITATION.		

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

Inhalation: May cause respiratory tract irritation.
Skin contact: May cause allergic skin reaction. May cause skin irritation.
Eye contact: Contact with eyes will cause irritation.
Ingestion: Not expected to be harmful by ingestion.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

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

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Polyglycol dimethacrylate	25852-47-5	60 - 100
Oleic acid 5.5EO	9004-96-0	10 - 30
Saccharin	81-07-2	1 - 5
Silica, amorphous, fumed, crystal-free	112945-52-5	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
Propanediol-1,2	57-55-6	1 - 5
Titanium dioxide	13463-67-7	0.1 - 1

IDH number: 135355

Product name: LOCTITE[®] 242[®] THREADLOCKER

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Keep warm and quiet. Get medical attention.
Skin contact:	Wash with soap and water. Remove contaminated clothing and footwear. Wash clothing before reuse. If symptoms develop and persist, get medical attention.
Eye contact:	Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention.
Ingestion:	Do not induce vomiting. Keep individual calm. Get medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	> 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flame projection:	Not applicable
Autoignition temperature:	Not determined
Flammable/Explosive limits - lower:	2.6 % (propylene glycol)
Flammable/Explosive limits - upper:	12.5 % (propylene glycol)
Extinguishing media:	Foam, dry chemical or carbon dioxide.
Special firefighting procedures:	None
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow product to enter sewer or waterways.
Clean-up methods:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Handling:	Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling.
Storage:	For safe storage, store at or below 38 °C (100.4 °F) Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyglycol dimethacrylate	None	None	None	None
Oleic acid 5.5EO	None	None	None	None
Saccharin	None	None	None	None
Silica, amorphous, fumed, crystal-free	10 mg/m3 TWA Inhalable dust. 3 mg/m3 TWA Respirable fraction.	20 MPPCF TWA 0.8 mg/m3 TWA	None	None
Cumene hydroperoxide	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None
Propanediol-1,2	None	None	10 mg/m3 TWA Aerosol.	None
Titanium dioxide	10 mg/m3 TWA	15 mg/m3 TWA Total dust.	None	None

Engineering controls:	No specific ventilation requirements noted, but forced ventilation may still be required if concentrations exceed occupational exposure limits.
Respiratory protection:	Use NIOSH approved respirator if there is potential to exceed exposure limit(s).
Eye/face protection:	Safety goggles or safety glasses with side shields.
Skin protection:	Use impermeable gloves and protective clothing as necessary to prevent skin contact. Neoprene gloves. Butyl rubber gloves. Natural rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Blue
Odor:	Mild
Odor threshold:	Not available
pH:	Not applicable
Vapor pressure:	< 5 mm hg (27 °C (80.6 °F))
Boiling point/range:	> 149 °C (> 300.2 °F)
Melting point/ range:	Not available
Specific gravity:	1.1 at 23.9 °C (75.02 °F)
Vapor density:	Not available
Flash point:	> 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flame projection:	Not applicable
Flammable/Explosive limits - lower:	2.6 % (propylene glycol)
Flammable/Explosive limits - upper:	12.5 % (propylene glycol)
Autoignition temperature:	Not determined
Evaporation rate:	Not available
Solubility in water:	Slight
Partition coefficient (n-octanol/water):	Not available
VOC content:	4.48 %; 49.3 g/l EPA Method 24

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.
Incompatible materials:	Strong oxidizing agents. Free radical initiators. Strong reducing agents. Alkalis. Oxygen scavengers. Other polymerization initiators. Copper. Iron. Zinc. Aluminum. Rust.
Conditions to avoid:	See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).

11. TOXICOLOGICAL INFORMATION

Acute oral product toxicity: LD50 (rat) > 10,000 mg/kg

Acute dermal product toxicity: LD50 (rabbit) > 5,000 mg/kg

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyglycol dimethacrylate	No	No	No
Oleic acid 5.5EO	No	No	No
Saccharin	No	No	No
Silica, amorphous, fumed, crystal-free	No	No	No
Cumene hydroperoxide	No	No	No
Propanediol-1,2	No	No	No
Titanium dioxide	No	Group 2B	No

Hazardous components	Health Effects/Target Organs
Polyglycol dimethacrylate	Irritant, Allergen
Oleic acid 5.5EO	Irritant
Saccharin	No Target Organs
Silica, amorphous, fumed, crystal-free	Nuisance dust
Cumene hydroperoxide	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Propanediol-1,2	Irritant
Titanium dioxide	Irritant, Respiratory, Some evidence of carcinogenicity

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The shipping classifications in this sections are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
 Hazard class or division: None
 Identification number: None
 Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
 Hazard class or division: None
 Identification number: None
 Packing group: None

Water Transportation (IMO/MDG)

Proper shipping name: Not regulated
 Hazard class or division: None
 Identification number: None
 Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification:	None above reporting de minimus
CERCLA/SARA Section 302 EHS:	None above reporting de minimus
CERCLA/SARA Section 311/312:	Immediate Health, Delayed Health
CERCLA/SARA 313:	This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Cumene hydroperoxide (CAS# 80-15-9).
California Proposition 65:	This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status:	All components are listed on or are exempt from listing on the Canadian Domestic Substances List.
WHMIS hazard class:	D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format.

Prepared by: Kyra Kozak Woods, Manager, Regulatory Affairs

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation does not assume responsibility for any results obtained by persons over whose methods Henkel Corporation has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any of Henkel Corporation's products. In light of the foregoing, Henkel Corporation specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

Material Safety Data Sheet

LOCTITE[®]

Revision Number: 007.0

Issue date: 01/04/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	LOCTITE® 262™ THREADLOCKER HIGH STRENGTH	IDH number:	231926
Product type:	Anaerobic Sealant	Item number:	26221
Company address:	Henkel Corporation One Henkel Way Rocky Hill, Connecticut 06067	Region:	United States
		Contact information:	Telephone: 860.571.5100
			MEDICAL EMERGENCY Phone: Poison Control Center 1-877-671-4608 (toll free) or 1-303-592-1711
			TRANSPORT EMERGENCY Phone: CHEMTREC 1-800-424-9300 (toll free) or 1-703-527-3887
			Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

Physical state:	Liquid	HEALTH:	*2
Color:	Red	FLAMMABILITY:	1
Odor:	Mild	PHYSICAL HAZARD:	1
		Personal Protection:	See MSDS Section 8

WARNING: CAUSES EYE IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.
MAY CAUSE SKIN IRRITATION.

Relevant routes of exposure: Skin, inhalation, Eyes, Respiratory system

Potential Health Effects

Inhalation:	May cause respiratory tract irritation.
Skin contact:	May cause allergic skin reaction. May cause skin irritation with discomfort or rash.
Eye contact:	Contact with eyes will cause irritation.
Ingestion:	May be harmful if swallowed.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

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

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Polyglycol dimethacrylate	25852-47-5	60 - 100
Bisphenol A fumarate resin	38382-25-7	10 - 30
Saccharin	81-07-2	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
N,N-Diethyl-p-toluidine	613-48-9	1 - 5

IDH number: 231926

Product name: LOCTITE® 262™ THREADLOCKER HIGH STRENGTH
Page 1 of 5

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If symptoms develop and persist, get medical attention.
Skin contact:	Wash with soap and water. Remove contaminated clothing and footwear. Wash clothing before reuse. If symptoms develop and persist, get medical attention.
Eye contact:	Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention.
Ingestion:	Do not induce vomiting. Keep individual calm. Get medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	> 93.3 °C (> 199.94 °F) Tagliabue closed cup
Autoignition temperature:	Not available
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Extinguishing media:	If product is involved in fire extinguish with dry powder, foam or carbon dioxide.
Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Thermal decomposition can lead to release of irritating gases and vapors. Oxides of carbon. Oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow product to enter sewer or waterways. Do not allow product to enter sewer or waterways.
Clean-up methods:	Ensure adequate ventilation. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up spilled material and place in a closed container for disposal. Ensure adequate ventilation. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up spilled material and place in a closed container for disposal.

7. HANDLING AND STORAGE

Handling:	Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists of this product. Wash thoroughly after handling.
Storage:	For safe storage, store at or below 38 °C (100.4 °F) Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyglycol dimethacrylate	None	None	None	None
Bisphenol A fumarate resin	None	None	None	None
Saccharin	None	None	None	None
Cumene hydroperoxide	None	None	1 ppm (6 mg/m ³) TWVA (SKIN)	None
N,N-Diethyl-p-toluidine	None	None	None	None

Engineering controls:	No specific ventilation requirements noted, but forced ventilation may still be required if concentrations exceed occupational exposure limits.
Respiratory protection:	Use a NIOSH approved supplied air respirator with an organic cartridge if the potential to exceed established exposure limits exists.
Eye/face protection:	Safety goggles or safety glasses with side shields.
Skin protection:	Use impermeable gloves and protective clothing as necessary to prevent skin contact. Natural rubber gloves. Neoprene gloves. Butyl rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Red
Odor:	Mild
Odor threshold:	Not available
pH:	Not applicable
Vapor pressure:	< 5 mm hg (27 °C (80.6 °F))
Boiling point/range:	> 149 °C (> 300.2 °F)
Melting point/ range:	Not available
Specific gravity:	1.05
Vapor density:	Not available
Flash point:	> 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Autoignition temperature:	Not available
Evaporation rate:	Not available
Solubility in water:	Slight
Partition coefficient (n-octanol/water):	Not available
VOC content:	0 %; 0 g/l

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Phenolics. Irritating organic vapours.
Incompatible materials:	Iron. Copper. Rust. Aluminum. Zinc. Reducing agents. Strong acids and oxidizing agents. Oxygen scavengers. Strong alkalis.
Conditions to avoid:	See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).

11. TOXICOLOGICAL INFORMATION

Acute oral product toxicity:	LD50 (rat) > 10,000 mg/kg
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Acute dermal product toxicity:

LD50 (rabbit) > 5,000 mg/kg

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyglycol dimethacrylate	No	No	No
Bisphenol A fumarate resin	No	No	No
Saccharin	No	No	No
Cumene hydroperoxide	No	No	No
N,N-Diethyl-p-toluidine	No	No	No

Hazardous components	Health Effects/Target Organs
Polyglycol dimethacrylate	Irritant, Allergen
Bisphenol A fumarate resin	No Target Organs
Saccharin	No Target Organs
Cumene hydroperoxide	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
N,N-Diethyl-p-toluidine	No Target Organs

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The shipping classifications in this sections are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/MDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification: None above reporting de minimus

CERCLA/SARA Section 302 EHS: None above reporting de minimus
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Cumene hydroperoxide (CAS# 80-15-9).
CERCLA Reportable quantity: Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)
Saccharin (CAS# 81-07-2) 100 lbs. (45.4 kg)
California Proposition 65: This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.
WHMIS hazard class: D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format. 2, 8, 11

Prepared by: Kyra Kozak Woods, Manager, Regulatory Affairs

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MSDS No.: 277
Revision No.: 005
Revision Date: 04/16/02
Page: 1 of 2

MATERIAL SAFETY DATA SHEET

Product name: CF 128-DW Insulating Foam for Doors and Windows
Description: Urethane resin system
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	PEL:	TLV:	STEL:
Urethane / polyol prepolymer *	NE / Mixture	NE	NE	NE
4,4' diphenylmethane diisocyanate (free MDI) *	101-68-8	C: 20 ppb	5 ppb	NE
1,1,1,2 tetrafluoroethane	811-97-2	NE	NE	NE
Dimethyl ether	115-10-6	NE	NE	NE
Butane	106-97-8	NE	800 ppm	NE
Propane	074-98-6	1000 ppm	2500 ppm	NE

* MDI isomers and homologues are partially linked with a polyol mixture. Excess MDI is available in the mixture (container); however MDI is completely (>99.9%) reacted while curing.

Abbreviations: PEL = OSHA Permissible Exposure Limit. TLV = ACGIH Threshold Limit Value. STEL = Short Term Exposure Limit. C = Ceiling. NE = None Established. NA = Not Applicable

PHYSICAL DATA

Appearance:	Yellow to tan liquid.	Odor:	Mild.
Vapor Density: (air = 1)	> 1 (MDI Polymer)	Vapor Pressure:	5 - 5.6 bar @ 68° F
Boiling Point:	Not determined.	VOC Content:	100 g/l
Evaporation Rate:	< .1 (ether = 1)	Solubility in Water:	Not soluble.
Specific Gravity:	1.1	pH:	Not determined.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	- 40° F (propellants)	Flammable Limits:	1.9 - 27%
Extinguishing Media:	Aerosol cans: CO ₂ , Dry Chemical, Foam. Cured foam: CO ₂ , Dry Chemical, Foam, Water		
Special Fire Fighting Proc.	None known for cured foam. Uncured isocyanates react with water to release CO ₂ .		
Unusual Fire and Explosion Hazards:	Extremely flammable. Contains flammable propellants under pressure. Aerosol cans exposed to fire or direct heat can rupture from pressure build-up. CAUTION: Do not heat cold cans with a torch or flame to raise product temperature. This may cause the can to burst.		

REACTIVITY DATA

Stability:	Reacts (i.e. expands at a ratio of > 40:1 to form a polyurethane foam) upon contact with air. Contact with moisture or water will also cause material to polymerize (non-violently).
Hazardous Polymerization:	Will not occur. Reacts with water (nonviolently).
Incompatibility:	Alcohols, amines, strong bases, alkali metal compounds.
Decomposition Products:	Thermal decomposition of uncured foam can yield CO, CO ₂ , HCN, HCNO, HCl, NO _x , PO _x . Thermal decomposition products from cured foam include CO _x , NO _x and traces of HCN and HCl.
Conditions to Avoid:	Temperature extremes will shorten product shelf life; i.e. below 40° F / above 100° F. Contact with air or moisture will cause foam to polymerize (cure).

HEALTH HAZARD DATA

Known Hazards:	Acute: Eye, skin, and respiratory irritation. Chronic: Sensitization
Signs and Symptoms of Exposure:	Eyes: Can adhere to cornea. Skin: Can adhere to the skin. Can cause irritation and possibly sensitization; e.g. itching, swelling, rashes, etc. Inhalation: Vapor generated when heated to temperatures > 100° F can cause irritation of the breathing tract. Some individuals can develop an allergic (asthmatic-like) response. Ingestion: Effects of ingestion have not been determined. Not a likely route of exposure. No ill effects expected.
Routes of Exposure:	Inhalation. Contact.

Carcinogenicity: No ingredients are classified as a carcinogen by IARC, NTP or OSHA.
Medical Conditions Aggravated by Exposure: Eye, skin, and respiratory conditions.

EMERGENCY AND FIRST AID PROCEDURES

Eyes: Immediately flush with large amounts of clean water and seek medical attention.
Skin: Cured product is difficult to remove from the skin. Remove immediately with soap and warm water. Acetone may remove uncured product. If material has hardened, use Hilti MC 400 Hand Cleaner or a light mineral oil. If still unable to remove, buff off with a pumice stone.
Inhalation: Should sensitization occur, immediately move to fresh air. Call a physician if symptoms persist. Those individuals who develop an allergic reaction should avoid future use of this product.
Ingestion: Seek medical attention. Do not induce vomiting unless directed by a physician.
Other: Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure. If sensitization occurs, future contact with the material should be avoided.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation: General (natural or mechanically induced fresh air movements).
Eye Protection: Goggles recommended; safety glasses with side shields as a minimum.
Skin Protection: Cotton gloves are suitable.
Respiratory Protection: Not normally required.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions: Avoid contact. Material will adhere to eyes and skin. Contents under pressure. Extremely flammable. Do not apply direct heat to the cans. Before using, remove ignition sources such as flames or equipment / tools that generate sparks. Store in a cool dry place. Do not store in direct sunlight. Keep from freezing. Store between 40° and 100° F. Always wash thoroughly after handling chemical products. For industrial use only. Keep out of reach of children. Follow label / use instructions. Storage classifications: NFPA = Level 3; OSHA = Class 1A.
Spill Procedures: Wear appropriate personal protective equipment. CF 128-DW insulating foam will polymerize (cure) upon contact with air/moisture. Allow product to cure, then remove for disposal. See disposal guidelines below.

REGULATORY INFORMATION

TSCA Inventory Status: Chemical components listed on TSCA inventory.
SARA Title III, Section 313: This product contains 5 - 15% 4, 4' diphenylmethane diisocyanate (CAS # 101-68-8) which is subject to reporting under Section 313 of SARA Title III (40 CFR Part 372). (Technical note: MDI is not available in cured foam due to reaction of parts A and B upon exposure to air; i.e. when released from the can)
DOT Shipping Name: Consumer Commodity, ORM-D.
IATA / ICAO Shipping Name: Aerosols, Class 2.1, UN 1950
HMIS Codes: Health 2, Flammability 3, Reactivity 1, PPE B (Goggles, Gloves)
EPA Waste Code(s): D003 (for aerosol cans) / not regulated if product has been dispensed and has cured
Waste Disposal Methods: Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service: 1 800 879 8000 **Technical Service:** 1 800 879 8000
Health / Safety: 1 800 879 6000 Jerry Metcalf (x6704)
Emergency # (Chem-Trec): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 703 527 3887 (other countries)

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



MSDS No: 30
 Rev Date: 5/18/10
 Rev No: 3

1 MATERIAL SAFETY DATA SHEET

Product Name: **POWERFOAM™ / TRIGGERFOAM™**
 Description: Polyurethane foam filler, insulating foam, backing foam, penetration sealant
 Supplier: Powers Fasteners, Inc. 2 Powers Lane, Brewster, NY 10509
 Customer Service: 800-524-3244
 Emergency Phone: (CHEMTREC) Within USA: (800) 424-9300; Outside USA: 01 (703) 527-3887

2 INGREDIENTS

	<u>CAS Number</u>		<u>ACGIH TWA</u>	<u>OSHA PEL</u>
Polymethylene polyphenyl isocyanate	9016-87-9	(as MDI)	0.005 ppm	0.02ppm
Dimethyl ether	115-10-6		1000ppm*	NE
Propane	74-98-6		1000ppm*	1000ppm
Isobutane	75-28-5		1000ppm*	NE

*Note: The ACGIH TLV listed above is for Dimethyl ether is an AIHA WEEL. The ACGIH TLVs listed above for Propane and Isobutane are as Aliphatic hydrocarbon gases.
 This product is classified as hazardous per OSHA regulations (29CFR 1910-1200).

Abbreviations: NE= Not established

3 SAFE USAGE RECOMMENDATIONS

Ventilation: Avoid breathing vapors or mist. Use with adequate ventilation, either natural or mechanical. Sensitized individuals should avoid using this product.

Eye Protection: Avoid eye contact. Safety goggles recommended. Wear safety glasses with side shields as a minimum, as product can stick to eyes.

Skin Protection: Avoid skin contact. Wear impermeable gloves. Product can adhere to skin and cause a rash or sensitization.

Respiratory Protection: Vapor may cause irritation of the breathing tract and sensitization. Use in a well-ventilated area.

Notice: For professional use. Keep away from children.

4 EMERGENCY AND FIRST AID PROCEDURES

Eyes: Immediately flush eyes with clean water for 15 minutes and call a physician.

Skin: Wash with soap and water. Launder clothing before reuse. Seek medical attention if any symptoms develop.

Inhalation: If breathing becomes uncomfortable or asthma-like symptoms develop, discontinue use and move to fresh air. Contact physician if symptoms persist.

Ingestion: Immediately rinse mouth with water and call a physician. Drink 1-2 glasses of water. Do not induce vomiting unless directed by a physician.

Other: Contact a physician if there is any question about the seriousness of the exposure.

5 HEALTH HAZARD INFORMATION

Hazards: Direct, prolonged contact with product can cause irritation and sensitization to some individuals. Those who develop an allergic response should avoid future use of this product.
 Contents are pressurized for dispensing and are extremely flammable.

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PHYSICAL CHARACTERISTICS

Appearance:	Beige foam. Sticky when wet.
Density	1.1
Boiling Point:	NE
(Air=1) Vapor Density:	>1
(Water=1) Evaporation Rate:	NE
Specific Gravity:	1.1
VOC Content:	100 g/l
Odor:	Mild amine-like
Solubility in Water:	Insoluble
pH:	NE

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FIRE HAZARD AND REACTIVITY DATA

Flammability:	Extremely Flammable	Flash Point: 0° F (-18° C)
		Boiling Point: NE
Stability:	Stable. Hazardous polymerization will not occur.	
Incompatibility:	Strong acids, bases and alcohols.	
Unusual fire or	Extremely flammable. Contains pressurized, flammable propellants.	
Explosion Hazards:	Containers can rupture if exposed to fire or direct heat.	
Extinguishing Media:	Foam, CO _x , HCN, Nox	
Fire Fighting:	Self-contained breathing equipment recommended.	
Hazardous Combustion		
Products:	CO, NO, HCN, HCL	

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TRANSPORTATION AND REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200.		
HMIS Codes:	Health: 3, Flammability: 3, Physical Hazard: 1.	PPE: B	Flash Point: 0° F (-18° C)
US DOT Proper Shipping Name:	Consumer commodity	ORM-D	
Canadian TDGR Proper Shipping Name:	Consumer commodity	(Aerosols)	
	UN1950 Class 2.1,	PG: None	
IATA/ICAO Proper Shipping Name:	AEROSOLS		
	UN1950 Class 2.1,	PG: None	
IMO/IMDG Proper Shipping Name:	AEROSOLS		
	UN1950 Class 2.1,	PG: None	EmS: F-D, S-U
Packing Instructions:	Passenger Aircraft: Y203 or 203 Cargo Aircraft Only: 203		
TSCA Inventory Status:	Chemical components listed on TSCA inventory.		
SARA Title III, Section 313:	Contains Polymethylene polyphenyl isocyanate.		

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STORAGE, CLEAN-UP, AND DISPOSAL

Storage:	Store in a cool, dry place. Keep from freezing and extreme heat, which may shorten shelf life.
Spills:	Follow above personal protective measures. Product will harden upon contact with air and moisture. After hardening, scrape up foam and dispose of in a sealable container.
Waste Disposal:	Dispose of in accordance with federal, state and local regulations.
EPA Waste Codes:	D001, D003 (aerosol cans)

The information and recommendations provided herein are based on information available to us at the time of preparation. We make no other warranty, expressed or implied, as to its correctness, completeness, or as to the results and reliance of the information.



CRC MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Cable Clean® HF™ (aerosol)
Product Number (s): 02170
Product Use: Splice and termination cleaner for high voltage cables

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 Luis 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: Flammable. Harmful or Fatal if Swallowed. Contents Under Pressure.
 Appearance & Odor: Clear liquid, slight hydrocarbon odor.

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause mild irritation, redness and tearing. Not expected to be an eye irritant.

SKIN: May cause mild irritation with extended contact. Not expected to be a skin irritant. No harmful effects from skin absorption have been reported.

INHALATION: Expected to have a low degree of toxicity by inhalation. Effects of overexposure may include irritation of the nose and throat, transient excitation followed by signs of nervous system depression (headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue).

INGESTION: Low degree of toxicity by ingestion. May cause irritation of the digestive tract, nausea and vomiting. Main hazard is aspiration of material into lungs during swallowing or vomiting. This can lead to chemical pneumonitis (inflammation of the lungs) and possible death.

CHRONIC EFFECTS: Inadequate evidence available to evaluate cancer hazard. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TARGET ORGANS: No data available

Medical Conditions Aggravated by Exposure: Skin disorders, respiratory (asthma-like disorders)

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Hydrotreated light distillate	64742-47-8	90 – 99
Carbon dioxide	124-38-9	1 - 5

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 or give anything by mouth due to aspiration hazard. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. Contact a physician immediately.

Note to Physicians: Aspiration hazard. Treat symptomatically.

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: 205°F / 96°C (PMCC)	Upper Explosive Limit: 5.0
Autoignition Temperature: ND	Lower Explosive Limit: 0.7

Fire and Explosion Data:

Suitable Extinguishing Media: Dry chemical, carbon dioxide, foam or water spray is recommended

Products of Combustion: Oxides of carbon

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. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

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.

Section 7: Handling and Storage

Handling Procedures: Do not store near possible sources of ignition. Provide ventilation during use. Avoid inhaling vapors. Avoid contact with skin and eyes. Use caution in confined spaces. Wash hands after use and before consuming food. 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. Make sure storage area is properly ventilated.

Aerosol Storage Level: III

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
Hydrotreated light distillate	NE	NE	NE	NE	NE		
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 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: slight hydrocarbon
 Odor Threshold: ND
 Specific Gravity: 0.79
 Initial Boiling Point: 435°F / 224°C

Product Name: Cable Clean® HF™ (aerosol)

Product Number (s): 02170

Freezing Point: ND
Vapor Pressure: < 0.1 mmHg @ 68°F / 20°C
Vapor Density: 4.5 (air = 1)
Evaporation Rate: slow
Solubility: insoluble 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: Potential sources of ignition; temperature extremes
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>
Hydrotreated light distillate	> 5 g/kg	> 2 g/kg	> 5 mg/L/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>
Hydrotreated light distillate	No	No	No	No	No
Carbon dioxide	No	No	No	No	No

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: hydrotreated light distillate - 96 Hr LC50 Pimephales promelas: 45 mg/L [flow-through]
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 not a RCRA hazardous waste. (See 40 CFR Part 261.20 – 261.33)
If this material is mixed with other materials, the resulting waste should be evaluated for waste classification. 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): 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: 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	No
	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.

U.S. State Regulations:

Product Name: Cable Clean® HF™ (aerosol)

Product Number (s): 02170

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: 124-38-9
Pennsylvania: 124-38-9
Massachusetts: 124-38-9
Rhode Island : 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

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

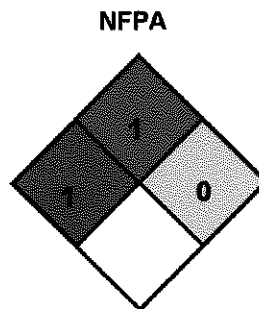
European Union Regulations:

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 #: 493A
Revision Date: 09/30/2011

Changes since last revision: Section 13: Disposal considerations

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 I - SUPPLIER INFORMATION

Product Name: Pitt Penn Premium Isopropyl Alcohol
Product Number: 802175
Bulk Stock Number: 022760

Synonyms: IPA, Isopropanol
Chemical Formula: $\text{CH}_3\text{CHCH}_3\text{OH}$
CAS Name & Number: Isopropyl Alcohol (67-63-0)
Chemical Family: Aliphatic Alcohol

Supplier's Name & Address: Pitt Penn Oil Co.
 426 Freeport Road
 P.O. Box 296
 Creighton, PA 15030
 (724) 226-2712

Emergency Phone Number: Chem Tel, Inc. 1-800-255-3924 (24 hours)

Current Issue Date: August 27, 2003
Date of Origination: March 12, 2002

SECTION II - HAZARDOUS INGREDIENT INFORMATION

<u>Component</u>	<u>CAS #</u>	<u>Wt. %</u>	<u>TLV</u>	<u>PEL</u>
Isopropyl	67-63-0	100	400 ppm	400 ppm

Eye Contact: Moderately irritating

Pitt Penn Oil Co.

Product Name: Pitt Penn Premium Isopropyl Alcohol

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Skin Contact: Mildly irritating

Inhalation: May cause mild irritation of nose and respiratory tract. May result in central nervous system depression.

Ingestion: Irritating to gastrointestinal tract, causing abdominal pain and vomiting, sometimes bloody. May cause central nervous system depression, low blood

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

pressure, rapid heart rate and liver damage.

Boiling Point:	180 ° F (82 ° C)
Specific Gravity (Water=1):	0.789
Vapor Pressure (mm of Mercury):	32 @ 68 ° F
Melting Point:	-88 ° C (-127 ° F)
Solubility (in Water):	Totally miscible
Vapor Density (Air=1):	2.1
p.H.:	Not applicable
Percent Volatile (by Weight):	100%
Evaporation Rate (Butyl Acetate=1):	1.4
Molecular Weight:	60
Appearance:	Liquid
Odor:	Pungent alcohol odor.

SECTION IV - FIRE AND EXPLOSION DATA

Special Fire Fighting Procedures:	Firefighters should use self-contained breathing apparatus with full face piece operated in pressure demand or other positive pressure mode, and wear full protective clothing.
Flashpoint and Method:	11 ° C (52 ° F) (closed cup)
Extinguishing Media:	Carbon dioxide, dry chemical, alcohol foam, and water.
Unusual Fire & Explosion Hazards:	Moderate explosion hazard and dangerous fire hazard when exposed to heat, sparks, or flames and can react vigorously with oxidizing agents.
Flammable Limits (% by volume):	2 LEL 12 UEL

Pitt Penn Oil Co.

Product Name: Pitt Penn Premium Isopropyl Alcohol

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Autoignition Temperature: 400 ° C (750 ° F)

SECTION V - REACTIVITY DATA

Stability: Stable
Conditions and Materials to Avoid: Heat, strong oxidizing agents
Hazardous Polymerization: Will not occur
Hazardous Decomposition Products: Toxic gases and vapors (i.e., carbon monoxide, formaldehyde) may be released.
Incompatibility: Strong oxidizing agents such as nitrates,

SECTION VI - HEALTH HAZARD DATA/FIRST AID

perchlorates or sulfuric acid.

Medical conditions aggravated by overexposure include pre-existing eye, skin & respiratory conditions.

ROUTES OF ENTRY/EMERGENCY AND FIRST AID PROCEDURES

Eyes: Wash eyes immediately with running water for at least 15 minutes, lifting the lower and upper lids occasionally. Get medical attention as soon as possible.
Skin: Remove contaminated clothing and wipe excess off. Wash affected area with soap and water; apply skin lotions. If skin irritation persists, get medical attention.
Inhalation: Remove victim to fresh air at once. Restore and/or support breathing as required. Keep victim warm and at rest. Get medical attention as soon as possible.
Ingestion: Get medical attention immediately. Induce vomiting with one (1) tablespoon of Ipecac or by touching the back of the throat (ONLY IF CONSCIOUS). Once vomiting has occurred, have the patient drink milk or water.
Reproductive Effects: Reported to cause birth defects in rats exposed to 1,000 mg/kg
Tetratogenicity: No
Metagenicity: No
Carcinogenicity: Not listed with IARC, NTP, ACGIH or OSHA as a carcinogen.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING

Precautions to be Taken in Handling and Storage:

Ground and electrically interconnect containers for transfer. Use spark proof tools. No

Pitt Penn Oil Co.

Product Name: Pitt Penn Premium Isopropyl Alcohol

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smoking in areas of use or storage. Avoid prolonged or repeated breathing of vapor or contact with skin. Avoid contact with eyes. Contact lenses should not be worn while handling Isopropanol. Eye wash stations and safety showers should be available in area of use. Do not ingest! Store in a well-ventilated, fireproof area, away from sources of heat, open flame, and ignition.

Other Precautions: Provide preplacement medical exams for industrially exposed workers, with emphasis on neurological and visual functions, liver and kidney systems. Provide suitable training to those working with Isopropanol. Monitor the workplace. Keep records.

Registrations/Certifications: Not applicable

SECTION VIII - SPECIAL PROTECTION AND CONTROL MEASURES

PERSONAL PROTECTIVE EQUIPMENT

Eye Protection: Safety glasses with side shields or face shield.

Respiratory Protection: Any air supplied respirator or self-contained breathing apparatus. Only NIOSH or OSHA approved equipment should be used.

Other: Impervious aprons, boots and face shields (8-inch min.) where splashing can occur.

VENTILATION

Local Exhaust: To meet TLV requirements, local exhaust should be used where vapor exposure is likely.

Mechanical (general): Controls must be spark proof and explosion proof.

Special: Not applicable

Other: Not applicable

SECTION IX - HANDLING OF SPILLS AND LEAKS

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

1. Remove all ignition sources.
2. Provide adequate ventilation.
3. Small quantities may be absorbed on paper towels. Evaporate in a safe place (such as fume hood). Large quantities can be collected and atomized in a suitable combustion chamber by approved disposal facility. Spills in sensitive areas may be diluted and

Pitt Penn Oil Co.

Product Name: Pitt Penn Premium Isopropyl Alcohol

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flushed to ground with a water spray. Do not flush to sewer or other confined space.

4. Spills should be reported according to Federal, State and Local regulations.

Waste Disposal Methods: Absorb in vermiculite, dry sand, earth or a similar material and dispose in a secured sanitary landfill or dispose of via a licensed waste solvent disposal company.

Clean Water Act Requirements: Not applicable

SECTION X - TOXICOLOGICAL/ECOLOGICAL INFORMATION

No data

SECTION XI - TRANSPORTATION DATA

D.O.T.: Proper Shipping Name - Isopropanol
Hazard Class - Flammable Liquid, Class 3, Packing Group II
Label Required - Flammable Liquid
Identification Number - UN-1219, Guide 129
Other Pertinent Information - See 45 CFR 172.101

SECTION XII - REGULATORY INFORMATION

All components listed on TSCA inventory.

NFDA Rating: Health -2 Fire - 3 Reactivity - 0

SECTION XIII - USER INFORMATION

The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation, and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable Federal, State and Local laws and regulations.

Relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading, this

Pitt Penn Oil Co.

Product Name: Pitt Penn Premium Isopropyl Alcohol

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information relates to the material designated and may not be valid for such material used in combination with any other materials or in any process.

MATERIAL SAFETY DATA SHEET

1. **American Polywater Corporation**
 11222 - 60th Street North
 P.O. Box 53
 Stillwater, MN 55082
 Phone: 1-651-430-2270
 Fax: 1-651-430-3634

Emergency Number: 1-651-430-2270

**Product Name: Type HP™
 Cleaner/Degreaser**

Chemical Description: Hydrocarbon/Terpene Blend
Canada WHMIS Class: B3

Date Reviewed: June 23, 2004
Reviewed By: S. H. Dahlke

2. HAZARDOUS INGREDIENTS

<u>Components*</u>	<u>CAS #</u>	<u>Weight %</u>	<u>ACGIH TLV**</u>	<u>OSHA TWA</u>
Medium Aliphatic Petroleum Solvent	64742-47-8	<100%	NE***	NE***
Monocyclic Terpene	5989-27-5	< 25%	NE***	NE***

* All components are listed on the TSCA inventory.

** Recommend TLV of 500 ppm for Type HP™ Cleaner/Degreaser.

*** Not Established

3. HAZARDS IDENTIFICATION

	<u>HMIS</u>	<u>NFPA</u>	<u>Key</u>	
Health	1	0	0-minimal	3-serious
Flammability	2	2	1-slight	4-severe
Reactivity	0	0	2-moderate	

4. FIRST AID

Eye Contact: If eye irritation from exposure to vapors develops, move to fresh air. Flush eyes with clean water. If irritation persists, seek medical attention. For direct eye contact, flush with large quantity of water for 15 minutes. Seek medical attention.

Skin Contact: Remove contaminated clothing; flush skin thoroughly with water. If irritation occurs, seek medical attention.

Inhalation (Breathing): If irritation of nose or throat develops, move to fresh air. If irritation persists, seek medical attention. If breathing is difficult, provide oxygen. If not breathing, give artificial respiration. Seek immediate medical attention.

Ingestion (Swallowing): Do not induce vomiting or give anything by mouth. Petroleum content can be aspirated into lungs and cause aspiration pneumonitis. If victim is drowsy or unconscious, place on the left side with head down. Do not leave victim unattended. Seek medical attention.

5. FIRE AND EXPLOSION HAZARD

Flash Point: > 141°F / 60.5°C (PMCC)

Flammable Limits: Unknown

Extinguishing Media: Carbon Dioxide, Dry Chemical or Foam

Special Procedures: Avoid direct streams of water, as fire scattering may occur.

Unusual Hazards: Sealed container can build up pressure when exposed to high heat. Cool containers with water.

6. ACCIDENTAL RELEASE MEASURES

For small spills, absorb with sand or absorbents. For large spills, stay upwind and away from spill. Keep all sources of ignition away from spill. If spill is indoors, ventilate area of spill. Foam, especially high expansion foam, may be used to suppress vapors. Keep out of drains, sewers or waterways. Use sand or other inert material to dam and contain spill. Do not flush area with water.

7. HANDLING AND STORAGE

Keep containers tightly closed. Keep containers cool, dry, and away from sources of ignition. Use and store this product with adequate ventilation. Avoid inhalation of vapors and personal contact with the product. Use good personal hygiene practice. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

8. CONTROL MEASURES

Respiratory Protection: Normal ventilation adequate. If exposure exceeds recommended limits, respirator protection is recommended. Use a respirator or gas mask with cartridges for organic vapors (NIOSH approved) or use supplied air equipment.

Protective Gloves: For repeated or prolonged skin contact, the use of impermeable gloves is recommended to prevent drying and possible irritation.

Eye Protection: Eye protection is recommended, especially if the material is used in ways where it could splash in the eyes.

Other Protective Equipment: It is suggested that a source of clean water be available in work area for flushing eyes and skin. Impervious clothing should be worn as needed.

9. PHYSICAL DATA

Appearance: Clear, colorless liquid

Vapor Pressure: <1 mm Hg @ 20°C

Specific Gravity (H₂O = 1): .79

Percent Volatiles (Weight): 100%

VOC Content: 790 gms/L

Boiling Point: IBP: 365°F / 185°C

Vapor Density (Air = 1): Not Determined

Solubility in Water: Nil

Evaporation Rate: >.1 (n-butyl acetate = 1)

10. REACTIVITY DATA

Stability: Stable

Hazardous Polymerization: Will not occur.

Incompatibility: Avoid heat, flame and contact with strong oxidizing agents.

11. HEALTH HAZARD/TOXICOLOGICAL INFORMATION

Eye Contact: Direct eye contact with vapors or splashes may cause eye irritation. This irritation is minimal and expected to be transient.

Skin Contact: This product has low skin irritation potential. Prolonged or repeated skin exposure can remove oils, causing redness, drying and cracking. Persons with pre-existing skin disorders may be more susceptible to skin irritation from this material.

Inhalation (Breathing): Concentrated petroleum solvent vapors may cause irritation of the nose and throat. Prolonged exposure to excessively high vapor concentrations can result in central nervous system depression (e.g., drowsiness, dizziness, loss of coordination, and fatigue). Persons with impaired lung function may experience additional breathing difficulties due to the irritant properties of this material.

Ingestion (Swallowing): LD₅₀ (rat) for petroleum distillate is > 20 gm/kg. LD₅₀ for terpene is > 5 gm/kg. Material has low level of oral toxicity. Ingestion of large quantities may cause irritation of the digestive tract, nervous system depression (e.g., drowsiness, dizziness, loss of coordination, and fatigue).

Aspiration Hazard: Petroleum solvent content can enter lungs during swallowing or vomiting and cause aspiration pneumonitis.

Carcinogenic Status: This substance has not been identified as a carcinogen or probable carcinogen by NTP, IARC or OSHA, nor have any of its components.

12. DISPOSAL CONSIDERATIONS

Dispose of product in accordance with local, county, state, and federal regulations. Type HP™ Cleaner/Degreaser is not considered hazardous waste under RCRA.

13. TRANSPORTATION

DOT Hazard Class: Not Regulated

DOT Shipping Name: Not Regulated

For shipment in non-bulk containers (<119 gallons)

14. REGULATORY STATUS

Hazard Categories for SARA Section 311/312 Reporting	Acute	Chronic	Fire	Pressure	Reactive
	No	No	Yes	No	No

Components	CERCLA/SARA Sec. 302 Hazardous Substance RQ	EHS TPQ	SARA Sec. 313 Toxic Release
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The components of Type HP™ Cleaner/Degreaser are not affected by these Superfund regulations.

View the HP™ Cleaner / Degreaser MSDS online at <http://www.polywater.com/hpmsds.html>

Disclaimer: The information and recommendations contained herein are believed to be reliable. However, the supplier makes no warranties, express or implied, concerning the use of this product. The buyer must determine conditions of safe usage and assumes all risk and liability in handling this product.

CRC MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Natural Degreaser™ Citrus-Based Degreaser (Aerosol)

Product Number (s): 14005

Product Use: General purpose degreaser

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 Luis 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

WARNING: Flammable. Eye and Skin Irritant. Contents Under Pressure.
As defined by OSHA's Hazard Communication Standard, this product is hazardous.
Appearance & Odor: Water-white liquid, citrus odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause moderate to severe eye irritation including burning and redness. Severity of irritation will depend upon quantity and duration of exposure. May cause slight corneal injury.

SKIN: Brief exposures may cause slight skin irritation with local redness. Prolonged exposure may cause mild to moderate irritation. Persons with sensitive skin may experience redness or drying of the skin.

INHALATION: Breathing small amounts of vapor during normal handling is not likely to cause harmful effects. Breathing large amounts may cause irritation to the nose and throat as well as headache, drowsiness or other nervous system effects.

INGESTION: Swallowing small amounts during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. May cause gastrointestinal irritation.

CHRONIC EFFECTS: Frequent and prolonged exposure to skin can cause dermatitis.

TARGET ORGANS: None known

Medical Conditions Aggravated by Exposure: eye and skin conditions

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Product Name: Natural Degreaser™ Citrus-Based Degreaser (aerosol)
Product Number (s): 14005

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Dipropylene glycol n-propyl ether	29911-27-1	60 - 70
Dipropylene glycol methyl ether acetate	88917-22-0	20 - 30
d-Limonene	5989-27-5 / 68956-56-9	5 - 15
Carbon dioxide	124-38-9	2 - 6

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Seek medical attention. Do not induce vomiting. Have victim drink water to dilute product.

Note to Physicians: Treat symptomatically.

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: 151°F / 66°C (TCC)	Upper Explosive Limit: ND
Autoignition Temperature: 400°F (estimated)	Lower Explosive Limit: ND

Fire and Explosion Data:

Suitable Extinguishing Media: Use extinguishing media appropriate for a Class B fire such as carbon dioxide, foam, or dry chemical. Do not use water.

Products of Combustion: Oxides of carbon and irritating fumes

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.

Product Name: Natural Degreaser™ Citrus-Based Degreaser (aerosol)

Product Number (s): 14005

Methods for Containment & Clean-up: Eliminate sources of ignition. Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Do not use near flames, sparks or other sources of ignition. Do not heat product. Use with adequate ventilation in order to prevent vapor build-up and a flammable atmosphere. Avoid contact with skin and eyes. Wash hands after use and before consuming food. 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 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	
Dipropylene glycol n-propyl ether	NE	NE	NE	NE	NE		
Dipropylene glycol methyl ether acetate	NE	NE	NE	NE	NE		
d-Limonene	NE	NE	NE	NE	30	AIHA	ppm
Carbon dioxide	5000	30000v	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 Viton, nitrile or PVC. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Product Name: Natural Degreaser™ Citrus-Based Degreaser (aerosol)
Product Number (s): 14005

Section 9: Physical and Chemical Properties

Physical State: liquid
 Color: water-white
 Odor: citrus
 Odor Threshold: ND
 Specific Gravity: 0.926
 Initial Boiling Point: 304°F
 Freezing Point: ND
 Vapor Pressure: ND
 Vapor Density: > 1 (air = 1)
 Evaporation Rate: slow
 Solubility: minimal in water
 Coefficient of water/oil distribution: ND
 pH: NA
 Volatile Organic Compounds: wt %: 9.7 g/L: 89.8 lbs./gal: 0.75

Section 10: Stability and Reactivity

Stability: Stable
 Conditions to Avoid: Temperature extremes, sources of ignition
 Incompatible Materials: Strong oxidizers, strong acids, or strong base
 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)
Dipropylene glycol n-propyl ether	1620 µL/kg	5660 µL/kg	No data
Dipropylene glycol methyl ether acetate	> 5000 mg/kg	> 2000 mg/kg	No data
d-Limonene	4400 mg/kg	> 5 g/kg	No data
Carbon dioxide	No data	No data	470,000 ppm/30M

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
Dipropylene glycol n-propyl ether	No	No	No	E (moderate) / S (mild)	Unknown
Dipropylene glycol methyl ether acetate	No	No	No	E (mild)	No
d-Limonene	No	No	No	E (moderate) / S (moderate)	Unknown
Carbon dioxide	No	No	No	No	No

E – Eye S – Skin R – Respiratory

Reproductive Toxicity: No information available

Product Name: Natural Degreaser™ Citrus-Based Degreaser (aerosol)

Product Number (s): 14005

<u>Teratogenicity:</u>	No information available
<u>Mutagenicity:</u>	Dipropylene glycol n-propyl ether: In vitro studies were negative
<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:	<u>d-Limonene</u> – 96 Hr LC50 Pimephaies promelas: 702 mg/L [flow-through] d-limonene is generally considered to be an aquatic toxicant
	<u>Dipropylene glycol n-propyl ether</u> – LC50 Daphnia magna: > 100 mg/L
Persistence / Degradability:	This product has not been tested for biodegradability, but all of the components are biodegradable.
Bioaccumulation / Accumulation:	Bioconcentration potential is low.
Mobility in Environment:	Not determined.

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is not a RCRA hazardous waste. (See 40 CFR Part 261.20 – 261.33) Aerosol containers should be completely 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):	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: 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

Product Name: Natural Degreaser™ Citrus-Based Degreaser (aerosol)

Product Number (s): 14005

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

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: In states with Consumer Products VOC regulations, this product is compliant as a General Purpose Degreaser.

State Right to Know:

New Jersey: 124-38-9
Pennsylvania: 124-38-9
Massachusetts: 124-38-9
Rhode Island : 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.

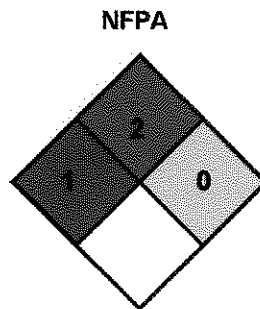
Additional Regulatory Information: None

Product Name: Natural Degreaser™ Citrus-Based Degreaser (aerosol)

Product Number (s): 14005

Section 16: Other Information

HMIS® (II)	
Health:	1
Flammability:	2
Reactivity:	0
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 00598E
Revision Date: 09/17/2010

Changes since last revision: Formula change to reduce VOC content.

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

1. IDENTIFICATION OF SUBSTANCE AND PREPARATION

Supplier/Manufacturer:

American Polywater Corporation
 11222 - 60th Street North
 P.O. Box 53
 Stillwater, MN 55082 USA
 Phone: 1-651-430-2270
 Fax: 1-651-430-3634

Polywater Europe BV
 Mauritsplaat 126
 NL-3012CD Rotterdam
 Netherlands
 Tel: +31 10 233 0578

Emergency Number: +1-651-430-2270

**Product Name: Grime-Away™
 Multi-Purpose Cleaner Wipes
 (HTC-D72, HTC-1)**

Chemical Description: Cleaning Emulsion, contains Light Hydrocarbon, Surfactants and Hand Emollients

Product Use: Wipe(s) Saturated with Cleaning Preparation

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS #</u>	<u>EC #</u>	<u>Wt %</u>
Medium Aliphatic Petroleum Solvent	64742-47-8	265-149-8	< 10%
Citrus Terpenes	94266-47-4	304-454-3	< 10%
Diethanolamine	111-42-2	203-868-0	< 0.2%

This product contains no other reportable hazardous components under 29 CFR 1910.1200. This product contains no other reportable hazardous components under European Directives 91/55/EEC.

3. HAZARDS IDENTIFICATION

Emergency Overview:	May cause eye irritation. Keep away from fire and flame. Keep out of reach of children.
Eye Contact:	Direct eye contact with vapors may cause eye irritation. This irritation is minimal and expected to be transient.
Skin Contact:	Material designed to be gentle on skin. This product has low skin irritation potential.
Irritation and Sensitization Potential:	Product may be irritating to skin and eyes. It is not a sensitizer.
Inhalation (Breathing):	Not a likely exposure route. Saturated towel package minimizes exposure.
Ingestion (Swallowing):	Maximum amount in a single saturated towel is less than 30 grams of solvent. Not a likely exposure route. Material has low level of oral toxicity. Ingestion of large quantities may cause irritation of the digestive tract and nervous system depression.

4. FIRST AID MEASURES

- Eye Contact:** If eye irritation from exposure to vapors develops, move to fresh air. Flush eyes with clean water. If irritation persists, seek medical attention.
- Skin Contact:** None Required. Material designed to be gentle on skin.
- Inhalation (Breathing):** If irritation of nose or throat develops, move to fresh air. If irritation persists, seek medical attention. If breathing is difficult, provide oxygen. If not breathing, give artificial respiration. Seek immediate medical attention.
- Ingestion (Swallowing):** Not a likely route of exposure. However, if large volumes swallowed, do not induce vomiting or give anything by mouth. If victim is drowsy or unconscious, place on the left side with head down. Do not leave victim unattended. Seek medical attention.

5. FIRE-FIGHTING MEASURES

- Flash Point (bulk liquid):** 192°F / 89°C (PMCC)
- Flammable Limits:** Not Available
- Autoignition Temperature:** Not Available
- Hazardous Decomposition and By-Products:** Burning generates CO, CO₂ and smoke. Smoke may be acrid and fumes irritating.
- Extinguishing Media:** Carbon Dioxide, Dry Chemical or Foam.
- Special Precautions:** Keep containers cool with water spray.
- Unusual Hazards:** None known.

6. ACCIDENTAL RELEASE MEASURES

No spill hazard with saturated towel package.

7. HANDLING AND STORAGE

Keep containers tightly closed. Keep containers cool and dry. Use and store this product with adequate ventilation. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Respiratory Protection:** Normal ventilation is adequate.
- Protective Gloves:** For people with pre-existing skin conditions such as dermatitis the use of impermeable gloves is recommended because this and other oil/grease effective cleaners may adversely affect the skin.
- Eye Protection:** Solvent is unlikely to splash eye.
- Other Protective Equipment:** None known.

Exposure Limits and Recommendations: TLV values for components have not been determined by OSHA/ACGIH.

9. PHYSICAL AND CHEMICAL PROPERTIES (bulk liquid)

Appearance: Milky-white liquid with a light citrus odor.

Odor Threshold: Not Available

Vapor Density (Air = 1): Not Available

Specific Gravity (H₂O = 1): 0.98

Solubility in Water: Dilutes emulsion

Boiling Point: 212°F / 100°C (initial)

Freezing Point: Not Available

Evaporation Rate: < 0.06 (n-butyl acetate = 1)

Vapor Pressure: 10.5 mm Hg @ 20°C

Coefficient of Water/Oil Distribution: Not Available

pH: Neutral

Volatiles (Weight %): >90%

VOC Content: 98 g/l

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Avoid heat, flame, sources of ignition.

Materials to Avoid: Strong oxidizing agents.

Hazardous Decomposition and By-Products: Carbon dioxide, carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Toxicity to Animals: Medium Aliphatic Petroleum Solvent
 LD₅₀ (oral rat) >5000 mg/kg
 LD₅₀ (dermal rabbit) >2000 mg/kg
 LC₅₀ (inhl rat) >4.3mg/L, 4 hours

Citrus Terpenes
 LD₅₀ (oral rat) >5000 mg/kg
 LD₅₀ (dermal rabbit) 5000 mg/kg
 RD₅₀ 1000 ppm

Diethanolamine
 LD₅₀ (oral rat) >750 mg/kg
 LD₅₀ (dermal rabbit) 8100 mg/kg
 LCLo >200 ppm, 6 hrs

Chronic Exposure: Not Available

Carcinogenic Status:	This substance has not been identified as a carcinogen or probable carcinogen by NTP, IARC, or OSHA, nor have any of its components.
Reproductive Toxicity:	Not Available
Mutagenicity:	Not Available
Teratogenicity:	Not Available
Toxicologically Synergistic Products:	Not Available

12. ECOLOGICAL INFORMATION

Mobility:	No information available.
Biodegradability:	Expected to be biodegradable.
Ecotoxicity:	No information available.
Aquatic Toxicity:	May cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Dispose of product in accordance with National and Local Regulations.

14. TRANSPORTATION INFORMATION

UN Number:	Not Listed
UN Proper Shipping Name:	Not Applicable
Class and Subsidiary Risk:	Not Applicable
Packing Group:	Not Applicable
TDG:	Not Regulated
ICAO/IATA-DGR:	Not Regulated
IMDG:	Not Regulated
ADR/RID:	Not Regulated

15. REGULATORY INFORMATION

USA Federal and State

All components are listed on the TSCA inventory.

Hazard Categories for SARA Section 311/312 Reporting	<u>Acute</u> No	<u>Chronic</u> No	<u>Fire</u> Yes	<u>Pressure</u> No	<u>Reactive</u> No
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Components	CERCLA/SARA Sec 302 <u>Hazardous Substance RQ</u>	<u>EHS TPO</u>	SARA Sec. 313 <u>Toxic Release</u>
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Components are not affected by these Superfund regulations.

European Union

Product is not classified as hazardous according to European Directives 88/379/EEC and 67/548/EEC and EU Regulation (EC) No 1272/2008.

Risk Phrases: Not Applicable

Safety Phrases: Not Applicable

Product complies with the communication requirements of REACH Regulation (EC) No. 1907/2006. It does not contain Substances of Very High Concern (SVHC).

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Classification: NC

Canadian DSL: All ingredients listed.

Australia

All components are listed on the AICS.

Not considered hazardous according to criteria of NOHSC Australia. Product classified as harmful (Xn).

Contact Information: ADAPT Australia Pty. Ltd.
11 - 19 Global Drive
Tullamarine Victoria 3043
Telephone Number. 03 9330 0666

Emergency Telephone Number: 0421 277 889

16. OTHER INFORMATION

NFPA Ratings:	Health:	1
	Fire:	0
	Reactivity:	0

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel during spill, fire or similar emergencies. Hazard ratings are based on physical and toxic properties of combustion or decomposition.

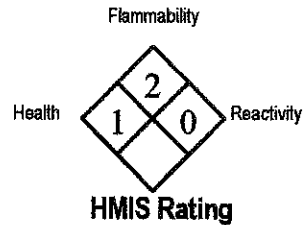
Revision Date: May 4, 2010

Revision Number: 1

Reviewed By: S. H. Dahlke

The information and recommendations contained herein are believed to be reliable. However, the supplier makes no warranties, express or implied, concerning the use of this product. The buyer must determine conditions of safe usage and assumes all risk and liability in handling this product.

Document # 6310-001



MATERIAL SAFETY DATA SHEET

GENERAL INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label) IDEAL Wipes Multi-Purpose Wipes		CATALOG NUMBER 38-500
MANUFACTURER'S NAME IDEAL INDUSTRIES, INC.		EMERGENCY TELEPHONE NO. (815) 895-5181
ADDRESS (Number, Street, City, State, Zip Code) Becker Place, Sycamore, IL 60178		
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) None		
CHEMICAL DESCRIPTION Cleaner	FORMULA Proprietary	

SECTION I - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)*	Listed as a carcinogen in NTP, IARC or OSHA 1910(z) (specify)
7732-18-5	<98	Water	No
12-07-2	<4	Butoxyethyl Acetate	No
9077-65-0	<1	Octoxynol 5	No
122-99-6	<1	Phenoxyethanol	No
99-76-3, 120-47-8, 94-26-8, 94-13-3	<1	Blend of methyl-, ethyl-, propyl-, butyl-, and isobutyl-paraben	No
1406-66-2	<1	Tocopherol	No
68439-46-3 68131-39-5	<5	Blend of Alcohol paneths	No

SECTION II - PHYSICAL DATA

BOILING POINT 212 °F 100 °C	SPECIFIC GRAVITY (H ₂ O=1) 1.000	PERCENT VOLATILE BY WEIGHT (%) N/A
SOLUBILITY IN WATER Infinite	pH = 5.7 - 6.7	PERCENT SOLID BY WEIGHT (%) <15
APPEARANCE AND ODOR Clear liquid lemon/citrus odor	IS MATERIAL: <input checked="" type="radio"/> LIQUID <input type="radio"/> SOLID <input type="radio"/> GEL <input type="radio"/> GAS <input type="radio"/> PASTE	

SECTION III - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT None	method used C.O.C	FLAMMABLE LIMITS	LEL 0.7 - 0.9	UEL 6.1 - 8.0
EXTINGUISHING MEDIA After water evaporates residue can burn. Use water spray, carbon dioxide, alcohol type or universal type foam applied in accordance with the manufacturer's instructions.				
SPECIAL FIRE FIGHTING PROCEDURES Fire fighters should wear self-contained breathing apparatus.				
UNUSUAL FIRE AND EXPLOSION HAZARDS None expected				

* None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R 1910.1200

SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE - Conditions to Avoid	
Eye: May cause irritation	
Skin: Prolonged contact may cause skin to become dry or minor irritation	
Inhalation: Inhaling mist may cause irritation to respiratory tract	
Ingestion: May cause stomach distress or nausea	
THRESHOLD LIMIT VALUE N.E.	
PRIMARY ROUTES OF ENTRY Inhalation <input type="checkbox"/> Skin Contact <input checked="" type="checkbox"/> Other (specify)	
EMERGENCY FIRST AID PROCEDURES	
SKIN CONTACT: Immediately remove excess chemical and contaminated clothing; thoroughly wash contaminated skin with mild soap and water. If irritation persists after washing seek medical attention. Clean contaminated clothing before reuse.	
EYE CONTACT: Thoroughly flush eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting upper and lower eye lids. If irritation persists, seek medical attention.	
Ingestion: If victim is conscious and able to swallow, have the victim drink water to dilute. Never give anything by mouth if victim is unconscious or having convulsions. Induce vomiting only if advised by a physician or Poison Control Center. CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY.	

SECTION V - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID: Extreme temperatures.
	STABLE	X	
INCOMPATIBILITY (materials to avoid) Avoid strong oxidizing agents.			
HAZARDOUS DECOMPOSITION PRODUCTS: May include and are not limited to oxides of carbon			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID None
	WILL NOT OCCUR	X	

SECTION VI - SPILL AND LEAK PROCEDURES

Leak and Spill Procedure: Ventilate area. Collect for disposal. Clean up remaining materials from spill with suitable absorbent. Clean area as appropriate since some material, even in small quantities, may present a slip hazard. Observe all personal protection equipment recommendations.	
WASTE DISPOSAL METHOD: Review federal, provincial or state and local government requirements prior to disposal.	
CERCLA (Superfund) REPORTABLE QUANTITY (in lbs) N/A	
RCRA HAZARDOUS WASTE NO. (40CFR 261.33) N/A	
VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water) N/A	
* Theoretical ____ lb/gal N/E	* Analytical ____ lb/gal N/E

SECTION VII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type) None normally required			
VENTILATION	LOCAL EXHAUST (Specify Rate) None	SPECIAL None	
	MECHANICAL (General) General ventilation usually adequate	OTHER As required by employer code. Eye bath, safety showers, full protective clothing	
PROTECTIVE GLOVES (specify type) Use chemical resistant (rubber, nitrile) gloves		EYE PROTECTION (specify type) Use chemical safety glasses recommended.	
OTHER PROTECTIVE EQUIPMENT Eye fountain in work area is recommended but not necessary.			

SECTION VIII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:	
Handling Requirements: Avoid contact with eyes, skin and clothing. Handle and open container with care. Empty containers may contain product residue. Do not reuse empty containers without commercial cleaning and reconditioning.	
Storage Requirements: Keep Out of Reach of Children. Keep away from heat, sparks, flame, static electricity, or other sources of ignition. Where flammable mixtures may be present, equipment safe for such locations should be used. Store in a cool, dry place away from incompatible materials.	
OTHER PRECAUTIONS Keep away from children, infants and pets.	

SECTION IX - ADDITIONAL INFORMATION

This product contains the following materials that are subject to the reporting requirements of Section 313 of EPCRA: None

N/A = Not Applicable, N.E. = None Established

THIS MATERIAL SAFETY DATA SHEET PREPARED BY:	
NAME James R. MacMurdo	SIGNATURE
TITLE Director, Corporate Quality Assurance	
10/12/2007	

ITEM: 1UCX2 - Baking Soda 16 Oz FDA Approved

MSDS: L3419

ORDER: 0103832192

LP NUMBER: U194316547-A

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

***** MATERIAL SAFETY DATA SHEET - L3419 *****

Associated Grainger Items
9FTAS, 1UCX2

CHURCH & DWIGHT CO., INC.

ARM & HAMMER (R+)
THE STANDARD OF PURITY

CONSUMER PRODUCTS

SPECIALTY PRODUCTS

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: MSDS-960

ISSUE DATE: 07/12/07

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: SODIUM BICARBONATE (BAKING SODA)

CHURCH & DWIGHT CO., INC.
469 N. HARRISON STREET
PRINCETON, NJ 08543

INFORMATION PHONE: 1-800-524-1328

24 HOUR EMERGENCY TELEPHONE:
CHEMTREC: 800.424.9300 OR 1-609-683-5900 (USA)

MEDICAL EMERGENCY PHONE: 1-888-234-1828

2. HAZARDS IDENTIFICATION

HMIS RATING:

HEALTH 0
FIRE 0
REACTIVITY 0

EMERGENCY OVERVIEW:

WHITE CRYSTALLINE POWDER; NO ODOR.

NOT A FIRE HAZARD.

NO SIGNIFICANT HEALTH OR ENVIRONMENTAL EFFECTS ASSOCIATED WITH THIS MATERIAL.

POTENTIAL HEALTH EFFECTS:

EYE: NOT AN EYE IRRITANT.

SKIN CONTACT: NOT A SKIN IRRITANT.

INGESTION:

MATERIAL IS PRACTICALLY NON-TOXIC. SMALL AMOUNTS (1-2 TABLESPOONFULS) SWALLOWED DURING NORMAL HANDLING OPERATIONS ARE NOT LIKELY TO CAUSE INJURY AS LONG AS THE STOMACH IS NOT OVERLY FULL; SWALLOWING LARGER AMOUNTS MAY CAUSE INJURY (SEE NOTE IN SECTION IV).

INHALATION: NONE KNOWN.

SUBCHRONIC EFFECTS/CARCINOGENICITY:

BASED ON PUBLISHED STUDIES ON ITS EFFECTS IN ANIMALS AND HUMANS, SODIUM BICARBONATE IS NOT TERATOGENIC OR GENOTOXIC. ONLY KNOWN SUBCHRONIC EFFECT IS THAT OF A MARKED SYSTEMIC ALKALOSIS. NOT CLASSIFIED AS CARCINOGENIC BY NTP, IARC, OSHA, ACGIH OR NIOSH.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL INGREDIENT	(% BY WEIGHT)	CAS NUMBER
SODIUM BICARBONATE	100%	144-55-8

NOT HAZARDOUS UNDER OSHA STANDARD 29 CFR 1910.1200.

NOT A HMIS CONTROLLED SUBSTANCE.

4. FIRST AID MEASURES

EYES:

CHECK FOR AND REMOVE CONTACTS. FLOOD EYES WITH CLEAN FLOWING WATER, LOW PRESSURE AND LukE WARM (NOT HOT) IF POSSIBLE, OCCASIONALLY LIFTING EYELIDS.

INGESTION:

IF LARGE AMOUNTS OF THIS MATERIAL ARE SWALLOWED, DO NOT INDUCE VOMITING. ADMINISTER WATER IF PERSON IS CONSCIOUS. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

NOTE TO PHYSICIAN:

LARGE DOSES MAY PRODUCE SYSTEMIC ALKALOSIS AND EXPANSION IN EXTRACELLULAR FLUID VOLUME WITH EDEMA.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASHPOINT: NOT COMBUSTIBLE

METHOD USED: NOT APPLICABLE

FLAMMABLE LIMITS:

LFL: NOT APPLICABLE

UFL: NOT APPLICABLE

EXTINGUISHING MEDIA:
NON-COMBUSTIBLE MATERIAL. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

FIRE-FIGHTING INSTRUCTIONS:

CARBON DIOXIDE MAY BE GENERATED MAKING NECESSARY THE USE OF A SELF-CONTAINED BREATHING APPARATUS (SCBA) AND FULL PROTECTIVE EQUIPMENT (BURGER GEAR). CARBON DIOXIDE IS AN ASPHYXANT AT LEVELS OVER 5% W/W. SODIUM OXIDE, ANOTHER THERMAL DECOMPOSITION PRODUCT EXISTS AT TEMPERATURES ABOVE 1564 DEG. F IS A RESPIRATORY, EYE, AND SKIN IRRITANT. AVOID INHALATION, EYE AND SKIN CONTACT WITH SODIUM OXIDE DUSTS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE KNOWN.

6. ACCIDENTAL RELEASE MEASURES

SCOOP UP INTO DRY, CLEAN CONTAINERS. WASH AWAY SMALL UNCONTAMINATED AMOUNTS OF RESIDUE WITH WATER.

7. HANDLING AND STORAGE

STORE IN COOL, DRY AREAS AND AWAY FROM INCOMPATIBLE SUBSTANCES (SEE SECTION 10).

SODIUM BICARBONATE REACTS WITH ACIDS TO YIELD CARBON DIOXIDE GAS WHICH CAN ACCUMULATE IN CONFINED SPACES. DO NOT ENTER CONFINED SPACES UNTIL THEY HAVE BEEN WELL VENTILATED AND CARBON DIOXIDE AND OXYGEN LEVELS HAVE BEEN DETERMINED TO BE SAFE.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

AIRBORNE EXPOSURE LIMITS: NONE ESTABLISHED.

RESPIRATORY PROTECTION:

DUST MASK REQUIRED IF TOTAL DUST LEVEL EXCEEDS 10 MG/M3.

PROTECTIVE GLOVES:

GENERAL PURPOSE FOR HANDLING DRY PRODUCT. IMPERVIOUS GLOVES WHEN WORKING WITH SOLUTIONS.

EYE PROTECTION:

SAFETY GLASSES WHEN HANDLING BULK MATERIAL OR WHEN DUSTS ARE GENERATED.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

FULL COVER CLOTHING. APRON WHERE SPLASHING MAY OCCUR WHEN WORKING WITH SOLUTIONS.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: WHITE CRYSTALLINE POWDER.

ODOR: NONE.

PHYSICAL STATE: SOLID

pH AS IS: NOT APPLICABLE

pH (1% SOLN. W/V): 8.2

VAPOR PRESSURE: NOT APPLICABLE.

VAPOR DENSITY: NOT APPLICABLE.

BOILING POINT: NOT APPLICABLE.

FREEZING/MELTING POINT: NOT APPLICABLE.

SOLUBILITY IN WATER: 8.6 G/100 ML @ 20 DEG. C.

BULK DENSITY (G/CC): 62 LB/PT3

% VOCs: NOT APPLICABLE.

VOLATILE ORGANIC COMPOUNDS: NOT APPLICABLE.

MOLECULAR WEIGHT: 84.02

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: STABLE.

CONDITIONS TO AVOID: TEMPERATURES ABOVE 65 DEG. C (150 DEG. F).

INCOMPATIBILITY WITH OTHER MATERIALS:

REACTS WITH ACIDS TO YIELD CARBON DIOXIDE. ALSO MAY YIELD FREE CAUSTIC IN PRESENCE OF LIME DUST (CaO) AND MOISTURE (I.E., WATER, PERSPIRATION).

DAINGEROUS REACTION WITH MONOAMMONIUM PHOSPHATE OR A SODIUM-POTASSIUM ALLOY.

HAZARDOUS DECOMPOSITION PRODUCTS:

HEATING ABOVE 100 DEG. C MAY CAUSE DANGEROUS LEVELS OF CARBON DIOXIDE GAS TO BE PRESENT IN CONFINED SPACES. YIELDS SODIUM OXIDE IF EXPOSED TO TEMPERATURES ABOVE 850 DEG. C. AVOID INHALATION, EYE AND SKIN CONTACT WITH SODIUM OXIDE.

HAZARDOUS POLYMERIZATION: NOT APPLICABLE.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS:

THE MATERIAL WAS MINIMALLY IRRITATING TO UNWASHED EYES AND PRACTICALLY NON-IRRITATING TO WASHED EYES (RABBITS).

SKIN EFFECTS:
NOT A SKIN IRRITANT OR DERMALLY TOXIC. NOT A CONTACT SENSITIZER.

ACUTE ORAL EFFECTS:
ACUTE ORAL-RAT LD50: 7.3 G/KG.

ACUTE INHALATION:
LC50 (RAT): >4.74 MG/L

----- 12. ECOLOGICAL INFORMATION -----

AQUATIC TOXICITY:

DAPHNIDS:
EC50: 4100 MG/L.

BLUEGILL:
LC50: 7100 MG/L.

RAINBOW TROUT:
LC50: 7700 MG/L.

PERSISTENCE: THIS PRODUCT IS EXPECTED TO PERSIST IN THE ENVIRONMENT.

BIOACCUMULATION: THIS PRODUCT IS NOT EXPECTED TO BIOACCUMULATE.

BIODEGRADATION:
THIS MATERIAL IS INORGANIC AND NOT SUBJECT TO BIODEGRADATION.

----- 13. DISPOSAL CONSIDERATIONS -----

BURY IN A SECURED LANDFILL IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL ENVIRONMENTAL REGULATIONS.

EMPTY CONTAINERS MAY BE INCINERATED OR DISCARDED AS GENERAL TRASH.

----- 14. TRANSPORTATION INFORMATION -----

D.O.T. SHIPPING NAME: NOT REGULATED

TECHNICAL SHIPPING NAME: SODIUM BICARBONATE

D.O.T. HAZARD CLASS: NONE

U.N./N.A. NUMBER: NONE

HAZARDOUS SUBSTANCE/RQ: NONE

D.O.T. LABEL: NONE

----- 15. REGULATORY INFORMATION -----

CLEAN AIR ACT SECTION 611:
MATERIAL NEITHER CONTAINS NOR IS IT MANUFACTURED WITH OZONE DEPLETING SUBSTANCES (ODS).

FEDERAL WATER POLLUTION CONTROL ACT (40 CFR 401.15):
MATERIAL CONTAINS NO INTENTIONALLY ADDED OR DETECTABLE (CONTAMINANT) LEVELS OF EPA PRIORITY TOXIC POLLUTANTS.

FOOD AND DRUG ADMINISTRATION:
GENERALLY RECOGNIZED AS SAFE (GRAS) DIRECT FOOD ADDITIVE (21 CFR 184.1736).

US DEPARTMENT OF AGRICULTURE:
LIST OF PROPRIETARY SUBSTANCES - PERMITTED USE CODES 3A, J1, A1, G1, AND L1.

CERCLA REPORTABLE QUANTITY: NONE

OSHA: NOT HAZARDOUS UNDER 29 CFR 1910.1200

RCRA:
NOT A HAZARDOUS MATERIAL OR A HAZARDOUS WASTE BY LISTING OR CHARACTERISTIC.

SARA TITLE III:

SECTION 302, EXTREMELY HAZARDOUS SUBSTANCES: NONE

SECTION 311/312, HAZARDOUS CATEGORIES: NON-HAZARDOUS

SECTION 313, TOXIC CHEMICALS: NONE

SODIUM BICARBONATE IS REPORTED IN THE EPA TSCA INVENTORY LIST.

CONTAINS NO VOCs.

NATIONAL STOCKING NUMBER: 6810002646618, CONTRACT NO. DLA 40086C1831

NSF STANDARD 60:
CORROSION AND SCALE CONTROL IN POTABLE WATER. MAX USE 200 MG/L.

CANADA-DSL:
EUROPEAN INVENTORY (EINECS): 205-633-8
JAPANESE INVENTORY (MITI): 1-164
AUSTRALIAN INVENTORY (AICS): CARBONIC ACID, MONOSODIUM SALT.

KOREA: YES

PHILIPPINE: YES

----- 16. OTHER INFORMATION -----

SUPERSEDES DATE: 04/03/06

REASON FOR REVISION: NEW ANZI REVISION.

FOR ADDITIONAL NON-EMERGENCY HEALTH, SAFETY AND ENVIRONMENTAL INFORMATION
TELEPHONE 609.279.7705 OR WRITE TO:
CHURCH & DWIGHT CO. INC.
R&D TECHNICAL REGULATORY AFFAIRS
469 NORTH HARRISON STREET
PRINCETON, NEW JERSEY 08543

THIS PRODUCT SAFETY DATA SHEET IS OFFERED SOLELY FOR YOUR INFORMATION.

CONSIDERATION AND INVESTIGATION. CHURCH & DWIGHT CO., INC. PROVIDES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, AND ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF DATA CONTAINED HEREIN. CHURCH & DWIGHT CO., INC. URGES PERSONS RECEIVING THIS INFORMATION TO MAKE THEIR OWN DETERMINATION AS TO THE INFORMATION SUITABILITY FOR THEIR PARTICULAR APPLICATION.

CORPORATE HEADQUARTERS:
469 NORTH HARRISON STREET
PRINCETON, NEW JERSEY 08543-5297

PHONE: (609) 683-5900



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Cutting Oil Thread Cutting Lubricant (aerosol)

Product Number (s): 14050, 75500

Product Use: Cutting oil

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 Luis 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

WARNING: Flammable. Contents Under Pressure.

Appearance & Odor: Brown viscous liquid, faint petroleum odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: Eye contact may result in slight irritation and redness.

SKIN: Short term contact with skin is unlikely to cause any problems. Excessive or repeated contact and poor hygiene conditions may result in dryness, dermatitis, erythema, oil acne, cracking and defatting of the skin.

INHALATION: Inhalation of vapors or mist may be irritating to the respiratory passages. Prolonged exposure may result in dizziness and nausea.

INGESTION: May result in nausea or stomach discomfort.

CHRONIC EFFECTS: None known

TARGET ORGANS: Lungs (oil mist)

Medical Conditions Aggravated by Exposure: pre-existing skin disorders

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Product Name: Cutting Oil Thread Cutting Lubricant (aerosol)
Product Number (s): 14050, 75500

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Hydrotreated naphthenic oil	64742-52-5	70 - 80
Additive blend	proprietary	2 - 6
Liquefied petroleum gas	68476-86-8	15 - 25

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, observe for signs of stomach discomfort or nausea. If symptoms persist, seek medical help. Do not induce vomiting. If there is any suspicion of aspiration into lungs, obtain immediate medical attention.

Note to Physicians: Treat symptomatically.

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: > 300°F / 149°C (COC)	Upper Explosive Limit: ND
Autoignition Temperature: > 600°F / 315°C	Lower Explosive Limit: ND

Fire and Explosion Data:

Suitable Extinguishing Media: Halon, dry chemical, foam, CO₂, water mist or fog, or any Class B extinguishing agent

Products of Combustion: Fumes, smoke 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: Dike area to contain spill. Eliminate all sources of ignition. Ventilate the area

Product Name: Cutting Oil Thread Cutting Lubricant (aerosol)
Product Number (s): 14050, 75500

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 flames, sparks or hot surfaces. Wash thoroughly after handling and before handling food. 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	
Hydrotreated naphthenic oil	5*	NE	5*	10*	NE		mg/m ³
Additive blend	NE	NE	NE	NE	NE		
Liquefied petroleum gas	1000	NE	1000	NE	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated * – oil mist							

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 (viscous)
Color: brown
Odor: faint petroleum
Odor Threshold: ND

Product Name: Cutting Oil Thread Cutting Lubricant (aerosol)**Product Number (s): 14050, 75500**

Specific Gravity: 0.924
 Initial Boiling Point: > 500°F / 260°C
 Freezing Point: ND
 Vapor Pressure: ND
 Vapor Density: > 5 (air = 1)
 Evaporation Rate: slow
 Solubility: negligible
 Coefficient of water/oil distribution: ND
 pH: NA
 Volatile Organic Compounds: wt %: 20.0 g/L: 184.8 lbs./gal: 1.54

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition

Incompatible Materials: Strong oxidizers, halogens

Hazardous Decomposition Products: Oxides of carbon, sodium, or sulfur. Aldehydes.

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)
Hydrotreated naphthenic oil	> 5000 mg/kg	> 2000 mg/kg	2.18 mg/L/4H
Additive blend	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 S (mild)	Sensitizer
Hydrotreated naphthenic oil	No	No	No	S (mild)	No
Additive blend	No	No	No	Unknown	Unknown
Liquefied petroleum gas	No	No	No	No	No

E - Eye	S - Skin	R - Respiratory
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Reproductive Toxicity: No information available**Teratogenicity:** No information available**Mutagenicity:** Hydrotreated naphthenic oil: Mutagenic index of less than 1.0**Synergistic Effects:** No information available

Other: IARC has determined in reviewing cancer prevalence of exposed workers that the carcinogenic activity of refined oils is related to the severity of processing of the base oil. The base oils contained in this product have been highly refined to remove aromatics, thus reducing carcinogenic potential. IP346: DMSO < 3.0%

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this

Product Name: Cutting Oil Thread Cutting Lubricant (aerosol)

Product Number (s): 14050, 75500

product.

Ecotoxicity: hydrotreated naphthenic oil – 96 Hr LC50, Fathead minnow: >30,000 mg/L (static)

Persistence / Degradability: This product is not readily biodegradable.

Bioaccumulation / Accumulation: No information available

Mobility in Environment: No information available

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): 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: 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	No
	Reactive Hazard	No
	Release of Pressure	Yes
	Acute Health Hazard	No
	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

Product Name: Cutting Oil Thread Cutting Lubricant (aerosol)
Product Number (s): 14050, 75500

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 compliant for use in the South Coast Air Quality Management District of California.

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, B5

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

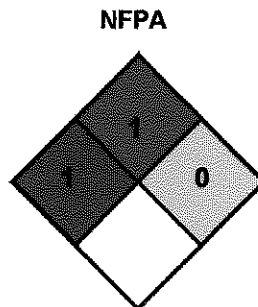
European Union Regulations:

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)


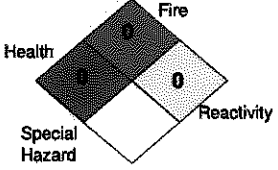
Prepared By: Michelle Rudnick
CRC #: 574
Revision Date: 01/23/2012

Changes since last revision: Section 15: VOC Regulations

Product Name: Cutting Oil Thread Cutting Lubricant (aerosol)
Product Number (s): 14050, 75500

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 (MSDS)	USA * See Sec. VIII HMIS INDEX Health Index-0 Flammability-0 Reactivity-0 Personal Protection-A*	NFPA CODE 	CANADA WHMIS INDEX Health-0 Flammability-0 Reactivity-0 Personal Protection-A*
	SECTION I		
Trade Name	LENOX® PROTOOL LUBE®		413-525-1418
Chemical Name And Synonyms	Amine Complex - Trade Secret		Revised Date 8/21/2009
Manufacturer's Name	Lenox®		Supersedes 7/15/2003
Address (Number, Street, City, State, Zip)	301 Chestnut Street, East Longmeadow, MA 01028-0504 U.S.A.		
SECTION II - INGREDIENTS			
<p>This Cutting Lubricant Does Not Contain Any Chemicals Listed in SARA Title III, Section 313 Of The Emergency Planning And Community Right-To-Know Act Of 1986 Or In OSHA 29 CFR 1910, Subpart Z List</p> <p>Note - Canadian Users: This Is Not A Controlled Product Under The WHMIS Guidelines.</p> <p>Does not contain silicone</p>			
SECTION III - PHYSICAL DATA			
Boiling Point	99°C / 210°F	Percent Volatile By Volume%	NA
Vapor Pressure	68°F	p.H.	8.0 - 8.5
Vapor Density (Air = 1)	>Air	Evaporation Rate	NA
Solubility In Water	100%	Pour Point C/F	-25°C / -13°F
Specific Gravity (H2O = 1)	1.03	Viscosity	500 SUS
Appearance and Odor	Translucent Yellow; Characteristic Odor		
SECTION IV - FIRE AND EXPLOSION HAZARD DATA			
Flash Point (Method Used) None	Flammable Limits None	LEL NA	UEL NA
Extinguishing Media Water or Carbon Dioxide			
Special Fire Fighting Procedures None Required			
Unusual Fire And Explosion Hazards None			
SECTION V - HEALTH HAZARD INFORMATION			
Symptoms/Effects Of Overexposure	None Known		
Medical Conditions Aggravated By Exposure	None Known		
Carcinogenicity	No	Biodegradable	Yes
FIRST AID			
Eyes	Flush Eyes With Water For 15 Minutes. See Physician If Irritation Persists.		
Skin	Wash Infected Area With Soap And Water.		
Ingestion	Do Not Induce Vomiting. Contact A Physician As A Precautionary Measure.		
Note:	This Product Is Not A DOT Hazardous Material And Is Therefore Not Regulated		

NA-Not Applicable NE-Not Established
 Lenox 301 Chestnut Street, East Longmeadow, MA 01028-0504 U.S.A.
 800-628-3030 413-525-2336
 Fax: 800-223-7906 413-525-2336

SECTION VI - REACTIVITY**Stability** Product is Stable And Will Not Polymerize**Incompatible Material:** Strong Acids or Alkalies**Hazardous Decomposition Product** None Known**SECTION VII - SPILL OR LEAK PROCEDURES****Procedures** Small Amounts - Flush With Water. Large Amounts Should Be Removed And Disposed Of In Accordance With Local, State, Federal Or Provincial Regulations.**Waste Disposal Method** Used Cutting Lubricant Must Be Disposed Of In Accordance With Local, State, Federal Or Provincial Regulations. Determine Waste Classification At time Of Disposal.**SECTION VIII - SPECIAL PROTECTION INFORMATION*****Eyewear** Use of Eye Protection Is A Good Industrial Practice Or As Required By Your Employer**Clothing/Gloves** Use Impervious Gloves/Clothing As Needed Or As Required.**Respiratory** None Required**Ventilation** Adequate Ventilation To Maintain Level At Less Than 5mg/m³ Air.**Work/Hygienic Practices** Wash Hands With Soap And Water As Required.**SECTION IX - SPECIAL PRECAUTIONS**

Use As Directed. Store Indoors.

Protect From Freezing. If Frozen, Thaw To Room Temperature And Agitate.

The information contained herein has been developed based upon current available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or for the consequences of its misuse.



36 Draffin Road, Hilton, NY 14468 Phone: 800-828-6351 585-392-3434 Fax: 585-392-2691
 EMERGENCY NUMBERS: CHEMTREC (800) 424-9300 Monroe Fluid Technology (800) 828-6351
 Website: <http://www.monroefluid.com>

Material Safety Data Sheet

Product Name: COOL TOOL II Effective Date: 05/06/11 Date Printed: 05/09/11 Page: 1

HMIS Rating:

Health: 1 Flammability: 1 Reactivity: 0 Personal Protection: B

1) INGREDIENTS: (% wt., unless otherwise noted)

CHEMICAL NAME	CAS #	%
Contains no ingredient known to be hazardous as defined by OSHA 29 CFR 1910.1000 (subpart z), and OSHA 29. CFR 1910.1200.		

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not "Hazardous" per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

2) PHYSICAL DATA:

Boiling Point:	> 400° F.
Vapor Pressure:@ 20° C.	< 0.01
Vapor Density:	> 1
Solubility In Water:	Insoluble
Specific Gravity:	0.91 ± 0.02
Appearance:	Clear amber liquid
Odor:	Bland

3) FIRE AND EXPLOSION HAZARD DATA:

Flash Point:	182° C.
Method Used:	PMCC
FLAMMABLE LIMITS	
LFL:	Not determined
UFL:	Not determined

EXTINGUISHING MEDIA: Water spray, foam or carbon dioxide

FIRE & EXPLOSION HAZARDS: Intense heat may cause drums to rupture. Cool fire-exposed containers with water. Treat as hot oil.

FIRE-FIGHTING EQUIPMENT: Firefighters should wear self-contained NIOSH-approved breathing apparatus.



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Material Safety Data Sheet

Product Name: **COOL TOOL II** Effective Date: 05/06/11 Date Printed: 05/09/11 Page: 2

4) REACTIVITY DATA:

STABILITY: (conditions to avoid) Stable under normal storage and use conditions
INCOMPATIBILITY: (specific materials to avoid) Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS: None currently known
HAZARDOUS POLYMERIZATION: Will not occur

5) ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Contain spill. Absorb with inert material. Place in a DOT container for disposal.
DISPOSAL METHOD: Dispose of according to federal, state and local regulations.

6) HEALTH HAZARD DATA:

EYE: Contact may cause irritation.
SKIN CONTACT: Prolonged or repeated contact may cause mild irritation of the skin.
SKIN ABSORPTION: Not likely to occur
INGESTION: Small amounts ingested incidental to normal handling are not likely to cause injury; larger amounts ingested may cause injury. Ingestion may cause nausea.
INHALATION: Short-term inhalation of concentrated mist/vapor from product may cause dizziness, nausea and respiratory tract irritation in some individuals. Single exposure to oily mist/vapors is not expected to cause acute toxicity.
SYSTEMIC (other target organ) EFFECTS: None known
TERATOLOGY (birth defects): No adverse effects expected
REPRODUCTIVE EFFECTS: No adverse effects expected
MUTAGENICITY (effects on genetic material): No adverse effects expected
CARCINOGENICITY: IARC: NO NTP: NO OSHA: NO

7) FIRST AID:

EYES: Flush with large amounts of water for 15 minutes. If irritation persists, contact a physician.
SKIN: Wash with soap and water.
INGESTION: Do not induce vomiting. Consult a physician.
INHALATION: Remove to fresh air. If symptoms persist, consult a physician.
NOTE TO PHYSICIAN: Treatment of overexposure should be directed toward the control of symptoms and the clinical condition.

8) HANDLING PRECAUTIONS :

EXPOSURE GUIDELINE: Threshold Limit Value: 10 mg/m³ of vegetable oil mist
VENTILATION: General room ventilation should be satisfactory. Local exhaust ventilation may be necessary if misting is generated.



36 Draffin Road, Hilton, NY 14468 Phone: 800-828-6351 585-392-3434 Fax: 585-392-2691
EMERGENCY NUMBERS: CHEMTREC (800) 424-9300 Monroe Fluid Technology (800) 828-6351
Website: <http://www.monroefluid.com>

Material Safety Data Sheet

Product Name: **COOL TOOL II** Effective Date: 05/06/11 Date Printed: 05/09/11 Page: 3

RESPIRATORY PROTECTION: None normally required. If mist is in excess of 10 mg/m³, use NIOSH-approved respirator.

SKIN PROTECTION: Oil-resistant gloves

EYE PROTECTION: Safety glasses

9) ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Laundry contaminated clothes before reuse. Avoid prolonged breathing of mist and vapors. Use as directed. Normal precautions common to good manufacturing practices should be followed in handling and storing. Store away from food in a cool, dry area. Wash hands before eating, drinking or smoking and after handling.

REGULATORY INFORMATION: (Not meant to be all-inclusive--selected regulations represented).

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws and regulations. See MSD Sheet for health and safety information.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The components of this product are listed on the TSCA inventory.

This product contains the toxic chemical or chemicals listed below, which are subject to the supplier notification requirements of Section 313 of the Superfund Amendments and Reauthorization Act of 1986 ("SARA") and the requirements of 40 CFR part 372. None

This notice must not be detached from the foregoing MSDS. If the MSDS is copied for any reason, including distribution, this notice must also be copied and accompany all redistributed MSDS'. Failure to do so may subject you to penalties under law.

This product contains the following ingredient(s) which are regulated under the Clean Air Act Section 112 hazardous air pollutants and is subject to all reporting requirements of CERCLA (Superfund). None

VOC content: None

10) TRANSPORTATION INFORMATION:

PROPER SHIPPING NAME: Non-regulated

DOT HAZARD CLASS: Non-regulated

MATERIAL SAFETY DATA SHEET (MSDS): STL THREAD LUBRICANT**1. PRODUCT IDENTIFICATION**

COMMON NAME: STL Thread Lubricant
CHEMICAL NAME: Mixture
PRODUCT DESCRIPTION: Thread lubricant
FORMULA: Not defined
CAS #: Mixture
DISTRIBUTOR: Cooper Industries/Crouse-Hinds LLC
ADDRESS: P.O. Box 4999
CITY, STATE, ZIP CODE: Syracuse, NY 13221-4999
INFORMATION TELEPHONE: (315) 477-7000 **EMERGENCY TELEPHONE:** CHEMTREC (800) 424-9300

2. HAZARDOUS INGREDIENTS - COMPOSITION/INFORMATION

COMPOUND	PERCENTAGE RANGE	OSHA-PEL	ACGIH-TLV
Petroleum oil CAS No.: 64742-62-7; 64742-65-0 RTECS: Mixture	Greater than 60%	5 mg/m ³ (as oil mist)	5 mg/m ³ * (as oil mist) 10 mg/m ³ (STEL) (as oil mist) 0.2 mg/m ³ (as mineral oil) (2005 Notice of Intended Change)
Lithium hydroxy stearate (as lithium stearate) CAS No.: 4485-12-5 RTECS: W14370000	7%	Not established	Not established

* As sampled by a method that does not collect vapor.

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

May cause minor eye, skin, and respiratory irritation and possibly dermatitis.

MATERIAL SAFETY DATA SHEET (MSDS): STL THREAD LUBRICANT

3. HAZARDS IDENTIFICATION (CONTINUED)

POTENTIAL HEALTH EFFECTS

EYE: May cause minor irritation.

SKIN: May cause minor irritation. Repeated or prolonged exposure may cause rash (dermatitis).

INGESTION: Relatively non-toxic. Ingestion may result in a laxative effect. Ingestion of substantial quantities may cause lithium toxicity.

INHALATION: Due to relatively low volatility, inhalation exposure is not anticipated under normal conditions and use. Inhalation of vapors or fumes produced at elevated temperatures or mists may cause irritation of the nose and throat, and possibly chemical pneumonitis.

CHRONIC: Prolonged or repeated contact may cause dermatitis or chemical pneumonitis in some individuals.

CARCINOGENICITY: No. NTP: No OSHA: No IARC: No
This product contains a petroleum-based grease. ACGIH has proposed lowering the TLV for mineral oil mists to 0.2 mg/m³ and a "suspect carcinogen" designation.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Inhalation may aggravate pre-existing respiratory conditions. Skin contact may aggravate pre-existing skin conditions in sensitive individuals.

TARGET ORGANS: None known.

4. FIRST AID MEASURES

EYE: Flush eyes with water for 15 minutes. If irritation persists, seek medical attention.

SKIN: Remove contaminated clothing and wash skin thoroughly with soap and water. If irritation persists, seek medical attention.

INGESTION: Not expected under normal conditions. If substantial amounts are ingested, consult a physician.

INHALATION: Not expected under normal conditions. If mists or degradation products are inhaled, remove to fresh air. Administer oxygen or artificial respiration as indicated and get immediate medical attention.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES No unusual fire hazards

FLASH POINT: 440 °F (COC)

FLAMMABLE LIMITS: LEL: No Data UEL: No Data

NFPA HAZARD CLASSIFICATION:
HEALTH: 1 **FLAMMABILITY: 1** **REACTIVITY: 0**

EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, foam, water fog. Foam and water fog are effective but may cause frothing. Do not use direct water stream as oil may spread and frothing can be violent. Continue to cool fire-exposed containers after flames are extinguished.

MATERIAL SAFETY DATA SHEET (MSDS): STL THREAD LUBRICANT

5. FIRE FIGHTING MEASURES (CONTINUED)

FIRE AND EXPLOSION HAZARDS: Water may be used to keep fire-exposed containers cool and knock down vapors. Mists and sprays may be flammable at temperatures below normal flash point. Combustion may produce oxides of carbon, lithium compounds, and other oxidation products.

FIRE FIGHTING INSTRUCTIONS: Firefighters should wear a NIOSH-approved, self-contained breathing apparatus (SCBA) operated in the positive pressure mode and full turnout gear or bunker gear.

6. ACCIDENTAL RELEASE MEASURES

Avoid walking through spilled material. Scoop or wipe up spilled material and place in clean container for later disposal. Thoroughly remove residue to prevent slipping. Prevent entry into waterways and sewers. Wear appropriate protective equipment (i.e., rubber gloves, apron, etc. as necessary to avoid contact). (See Section 8.)

7. HANDLING AND STORAGE

Store in a cool, dry, well-ventilated area away from ignition sources and incompatible materials. Keep away from heat, sparks, flames, and strong oxidizers when handling. Avoid skin and eye contact. Promptly change contaminated clothing and discard items that cannot be adequately cleaned (i.e., leather shoes). Wash thoroughly after handling and before meals and breaks. Empty containers may contain combustible product residue. Use appropriate precautions.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION: None required under normal working conditions. If ventilation is insufficient to control air contaminants, select NIOSH approved respiratory protection according to the magnitude of exposure. Select and maintain respirators in accordance with OSHA 29 CFR 1910.134.

SKIN PROTECTION: Wear rubber gloves, apron, and other clothing as necessary to prevent skin contact.

EYE PROTECTION: Safety glasses or goggles as necessary to prevent eye contact.

ENGINEERING CONTROLS: General ventilation is acceptable for ordinary handling. Local exhaust may be needed to control air contaminants when product is heated or misting may occur.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Amber semi-solid
ODOR:	Bland
BOILING POINT:	Greater than 500 °F
VAPOR PRESSURE:	Less than 1 mm Hg
VAPOR DENSITY (Air = 1):	Greater than 1.0
SOLUBILITY IN WATER:	<u>Insoluble</u>
SPECIFIC GRAVITY (Water = 1):	0.89

MATERIAL SAFETY DATA SHEET (MSDS): STL THREAD LUBRICANT

9. PHYSICAL AND CHEMICAL PROPERTIES (CONTINUED)

MELTING POINT: Not available
pH: Not available
% VOLATILE: Negligible

10. STABILITY AND REACTIVITY

STABILITY: Stable.

INCOMPATIBLE MATERIALS/CONDITIONS: Avoid contact with strong oxidizers (e.g., liquid chlorine, peroxides).

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion may produce oxides of carbon and smaller amounts of toxic lithium, and other oxidation products.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

INHALATION: No data is available for this material.

INGESTION: No data is available for the oil components of this lubricant. Lithium hydroxy stearate: LD₅₀ 15 g/kg (Rat).

SKIN AND EYE: No data is available.

OTHER: No other data is available for this material.

12. ECOLOGICAL INFORMATION

Not data is available for this material. Avoid exposure to environment whenever possible.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with applicable federal, state, and local regulations for waste petroleum grease/oil. Dispose per 40 CFR Part 261 and 262.

14. TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME: Oil, not otherwise specified
DOT HAZARD CLASS: Not regulated by DOT as a hazardous material
UN IDENTIFICATION NUMBER: Not Applicable
DOT SHIPPING LABEL: Not regulated by DOT as a hazardous material
DOT PACKING GROUP: Not regulated by DOT as a hazardous material

MATERIAL SAFETY DATA SHEET (MSDS): STL THREAD LUBRICANT

15. REGULATORY INFORMATION

WHMIS CLASSIFICATION: D2B

TSCA INVENTORY: The components of this product are listed on the TSCA inventory.

EPCRA - The material is not subject to Form "R" reporting.

SARA TITLE III – SECTION 313 SUPPLIER NOTIFICATION: This product does not contain ingredients subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and 40 CFR 372.

Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA): This product does not contain ingredients subject to the report requirements of SARA 204 (CERCLA) and 302 (EHS).

CERCLA Reportable Quantity: None.

Michigan Critical Materials Register: Except 7% Lithium Hydroxy Stearate (Lithium and Compounds – I.D. NO. 077U; Parameter NO. Class-02-0).

CALIFORNIA PROPOSITION 65: This product does not contain ingredients known to the State of California to cause cancer of reproductive toxicity.

16. OTHER INFORMATION

KEY:

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS:	Chemical Abstracts Service
CERCLA:	Comprehensive Environmental Response, Cleanup, and Liabilities Act
CFR:	Code of Federal Regulations
DOT:	Department of Transportation
EHS:	Extremely Hazardous Substance
EPCRA:	Emergency Planning and Community Right-to-Know Act
g/kg:	Gram of contaminant per kilogram of body weight
IARC:	International Agency for Research on Cancer
LD₅₀/LC₅₀:	Lethal dose or lethal concentration killing 50% of the test population
LEL/UEL:	Lower or upper explosive limit
mg/m³:	Milligrams of contaminant per cubic meter of air on a weight to volume basis
NIOSH:	National Institute for Occupational Safety and Health
NFPA:	National Fire Protection Association
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
PEL:	Permissible Exposure Limit
RTECS:	Registry of Toxic Effects of Chemical Substances
SARA:	Superfund Amendments and Reauthorization Act
STEL:	Short Term Exposure Limit
TLV:	Threshold Limit Value (2005)
TSCA:	Toxic Substances Control Act
WHMIS:	Workplace Hazardous Materials Information System

MATERIAL SAFETY DATA SHEET (MSDS): STL THREAD LUBRICANT

DISCLAIMER

The information in this MATERIAL SAFETY DATA SHEET should be provided to all who will use, handle, store, transport, or otherwise be exposed to this material. This information has been prepared for the guidance of plant engineering, operations, and management, and for persons working with or handling this material. Cooper Crouse-Hinds believes this information to be reliable and up-to-date as of the date of publication, but makes no warranty that it is.



MATERIAL SAFETY DATA SHEET (MSDS)

Product: O-Z Gedney Type **STL** Thread
Lube

A Material Safety Data Sheet (MSDS) for an EGS Electrical Group product is attached.

This product is purchased from the manufacturer by EGS Electrical Group and is distributed with no modification other than packaging.

Please see the following pages 2 for additional information.

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

Waterguard Technology Products
16023 I-10 E. FRWY Ste#6
Channelview, TX 77530
(281) 862-0300
Product Trade Name: Thread Lube
CAS No: Not applicable for mixtures
Generic Chemical Name Petroleum lubricating grease
Product type: Thread lubricant
Preparation/Revision Date: January 1, 2011

SECTION 2 - COMPOSITION INFORMATION

Distillates (petroleum), hydro treated 64742-52-5 >94%
Heavy naphthenic and Residual oils (petroleum), solvent dewaxed 64742-62-7
Lithium complex soap thickener Proprietary additives <6%
All components of this product are listed on the US TSCA inventory.

SECTION 3 - HAZARDS IDENTIFICATION

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized. Prolonged or repeated skin contact may cause skin irritation.

SECTION 4 - FIRST AID MEASURES

Eye contact: Flush with enough water to wash away any irritant. If irritation persists, seek professional help.
Skin: In case of skin contact, remove any contaminated clothing and wash skin with soap and water. Launder or dry clean clothing before reuse.
Inhalation: Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem.
Ingestion: If ingested, DO NOT induce vomiting, seek professional help.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: (minimum) 221 C (430F) COC method
Autoignition Temp. >260 C (500F)
Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.
Flammable or Explosive limits (Approx. percent by volume of air):
Estimated values: Lower flammable limit 0.9% Upper flammable limit 7%
Extinguishing media and fire fighting procedures:
Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size and potential size of fire and circumstances related to the situation. Use water spray, dry chemical, foam or carbon dioxide to extinguish the fire. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapor and to provide protection for persons attempting to stop a leak. Water spray may be used to flush spills away from exposures.
Minimize breathing of gases, vapor, fumes or decomposition products. Use supplies-air breathing equipment for enclosed or confined spaces or as otherwise needed.
Decomposition Products: Fumes, smoke, carbon monoxide, sulfur oxides, phosphorus oxides, metal oxides, aldehydes, and other decomposition products, in case of incomplete combustion.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled: recover free product, Add sand, earth, or other suitable absorbent to spill area.
Minimize skin contact. Keep product out of sewers and watercourses by dikeing or impounding. Assure conformity with applicable governmental regulations.

SECTION 7 - HANDLING AND STORAGE

Keep containers closed when not in use. Wash with soap and water or hand cleaner after handling. Empty containers may retain material residue. Do not expose containers to heat, flame, or other sources of ignition. Do not store near potential sources of heat.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

Ventilation: Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentration on vapors in air, if necessary.
Respiratory Protection: Use supplied-air respiratory protection in confined or enclosed spaced, if needed.
Protective Gloves: Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.
Eye protection: Use splash goggles or face shield when eye contact may occur.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

The following data is approximate or typical values:

Boiling Range: IBP Approx. 310 C (590 F) by ASTM D 2887

Vapor Pressure: Less than 0.01 mmHG @ 20 C

Specific Gravity 0.93 Vapor Density: (air=1):>5 pH: Essentially neutral Melting Point: 260 C (500 F) by ASTM D2887

Viscosity: 325 worked penetration, mm/10, @ 25 C, ASTM D217

SECTION 10 - STABILITY AND REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium, hypochlorite, etc., as this presents a serious explosion hazard.

SECTION 11 - DISPOSAL CONSIDERATIONS

Dispose of in an approved landfill. Consult state, local, or provincial authorities for more restrictive requirements.

SECTION 12 - TRANSPORT INFORMATION

US DOT SHIPPING DESCRIPTION: NOT REGULATED.

SECTION 13 - REGULATORY INFORMATION

None Known

The information presented here has been compiled from sources considered to be dependable and is accurate to the best of WaterGuard Technology Products knowledge; however, WaterGuard makes no warranty what so ever, expressed or implied, of Merchant ability or fitness for the particular purpose, regarding the accuracy of such data or the results to be obtained from the use thereof. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons WaterGuard assumes no responsibility for injury to recipient or to third persons or for any damage to any property and recipient assumes all such risk. All chemicals may present unknown health hazards and should be use with caution. Although certain hazards are described herein, WaterGuard Technology Products cannot guarantee that these are the only hazards that exist. It is the sole responsibility of the user to comply with all applicable Federal, State, and Local laws and regulations.

Product Name.....: RIDGID Dark Thread Cutting Oil

- **Ingestion:**
Ingestion may cause slight stomach irritation and discomfort.
- **Potential Chronic Health Effects**
No further data known.
- **Medical Conditions Aggravated By Exposure:**
No further data known.
- **Carcinogenicity:**
This product is not listed as a known or suspected carcinogen by IARC, OSHA or the NTP.

HMIS RATING:

Health	Flammability	Reactivity	PPE
1	1	0	X

Section 3 – Composition / Information On Ingredients

Components listed in this section may contribute to the potential hazards associated with exposure to the concentrate. The product may contain additional non-hazardous or trade secret components.

<u>Component:</u>	<u>CAS #</u>	<u>% By Weight</u>
Mineral Oil	64742-54-7	> 90
Sulfur Additive Package	Mixture	< 10

This product does not contain silicone.

Product Name.....: RIDGID Dark Thread Cutting Oil

Section 4 – First Aid Measures

EYE CONTACT:

Upon direct eye contact, hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. If irritation is due to exposure to mist or vapors, remove the individual to fresh air. If irritation persists, flush the eyes with clean water until the irritation subsides. If symptoms persist, contact a physician.

SKIN CONTACT:

Remove product from the skin by washing with a mild soap and water. Contaminated clothing should be removed to prevent prolonged exposure. If symptoms of exposure persist, contact a physician.

INHALATION:

Inhalation is not an expected route of exposure. If respiratory irritation or distress occurs, remove the employee to fresh air. Contact a physician or other medical professional if irritation or distress persists.

INGESTION:

If small amounts are ingested, first aid measures are not likely to be necessary. If larger amounts are ingested or if symptoms of ingestion occur, dilute stomach contents with two glasses of water or milk. (NOTE: Do NOT give anything by mouth to an unconscious person.) Do not induce vomiting without medical supervision. If vomiting occurs spontaneously, keep airway clear. If symptoms of ingestion persist, seek medical attention.

Section 5 – Fire Fighting Measures

FIRE AND EXPLOSIVE PROPERTIES:

Flashpoint.....: 385°F Cleveland Open Cup
Flammability Limits.....: LEL - N/A
UEL - N/A

Product Name.....: RIDGID Dark Thread Cutting Oil

EXTINGUISH MEDIA:

In accordance with NFPA guidance, dry chemical, foam or CO2 fire extinguishers are all acceptable. Note that while water fog extinguishers are also acceptable, do NOT apply a direct stream of water onto burning product because it may cause spreading and increase fire intensity.

UNUSUAL FIRE AND EXPLCSION HAZARDS:

No further data known.

FIRE-FIGHTING PROCEDURES AND EQUIPMENT:

Emergency responders in the danger area should wear bunker gear and self-contained breathing apparatus for fires beyond the incipient stage. See Section 8 of the MSDS for other PPE to be worn as conditions warrant.

Section 6 – Accidental Release Measures

PERSONAL PRECAUTIONS:

Use personal protection recommended in Section 8.

ENVIRONMENTAL:

This material is a water pollutant. Do not let spilled or leaking material enter waterways.

CLEAN-UP MEASURES:

Important: As with any spill or leak, before responding, ensure that you are familiar with the potential hazards and recommendations of the MSDS. Appropriate personal protective equipment must be worn.

If possible, safely contain the spill with dikes or other spill response equipment appropriate for petroleum or organic material releases. Take measures to prevent spreading of product. Note that while product will ignite, it will not readily burn. However, as a precaution, eliminate ignition sources. Prevent from entering sewers or waterways. Large volumes may be transferred to an appropriate container for proper disposal. Small volumes or residues may be soaked up with absorbents. Spill response materials should be collected for proper disposal.

Product Name.....: RIDGID Dark Thread Cutting Oil

Section 7 – Handling And Storage

HANDLING:

As with any industrial chemical, handle the product in a manner that minimizes exposure to practicable levels. Prior to handling, consult Section 8 of this MSDS to evaluate personal protective equipment needs. Open containers slowly to relieve any pressure. Follow all other standard industrial hygiene practices.

Empty containers may contain product residue. All safety precautions taken when handling this product should also be taken when handling empty drums and containers. Keep containers closed when not in use.

Product residue in empty containers is combustible but will not readily burn. Note, however, that excessive heating or cutting of empty containers may create an ignition source sufficient to start a fire and, in extreme cases, cause an explosion.

STORAGE:

Protect product quality by storing indoors and away from extreme temperatures. Close all containers when not in use.

Section 8 – Exposure Controls / Personal Protection

EXPOSURE GUIDELINES:**Component**

Mineral Oil	ACGIH TLV:	5 mg / m ³ (as mist)
	ACGIH STEL:	10 mg / m ³ (as mist)
	OSHA PEL:	5 mg / m ³ (as mist)
Sulfur Additive Package	No information	

Product Name.....: RIDGID Dark Thread Cutting Oil

ENGINEERING CONTROLS:

Normal general ventilation is expected to be adequate. It is recommended that ventilation be designed in all instances to maintain airborne concentrations at lowest practicable levels. Ventilation should, at a minimum, prevent airborne concentrations from exceeding any exposure limits.

The user may wish to refer to 29 CFR 1910.1000(d) (2) and the ACGIH "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices" (Appendix C) for the determination of exposure limits of mixtures. An industrial hygienist or similar professional may be consulted to confirm that the calculated exposure limits apply.

PERSONAL PROTECTIVE EQUIPMENT:

Selection of personal protective equipment should be based upon the anticipated exposure and made in accordance with OSHA's Personal Protective Equipment Standard found in 29 CFR 1910 Subpart I. The following information may be used to assist in PPE selection.

- **Eye Protection**
Wear eye protection appropriate to prevent eye exposure. Where splashing is not likely, chemical safety glasses with side shields are recommended. Where splashing may occur, chemical goggles or full face shield is recommended.
- **Skin Protection**
Gloves are not normally needed during normal conditions of use. If health effects are experienced, oil or chemical resistant gloves such as butyl or nitrile are recommended. Where splashing or soaking is likely, wear oil or chemical resistant clothing to prevent exposure.
- **Respiratory Protection**
A respirator may be worn to reduce exposure to vapors, dust or mist. Select a NIOSH/MSHA approved respirator appropriate for the type and physical character of the airborne material. A self-contained breathing apparatus is recommended in all situations where airborne contaminant concentration has not been confirmed to be below safe levels. Respirator use should comply with the OSHA Respirator Protection Standard found in 29 CFR 1910.134.
- **General Hygiene Considerations**
Wash thoroughly after handling.

Product Name.....: RIDGID Dark Thread Cutting Oil

Section 9 – Physical And Chemical Properties

Physical Appearance.....: Black
Odor.....: Mild Petroleum
Physical State.....: Liquid
Water Solubility.....: Insoluble
Specific Gravity.....: .878
VOC.....: 2.5%

Section 10 – Stability And Reactivity

STABILITY:

This product is stable.

CONDITIONS TO AVOID:

Avoid contact with incompatible materials and exposure to extreme temperatures.

INCOMPATIBLE MATERIALS:

This product is incompatible with strong oxidizing agents.

DECOMPOSITION PRODUCTS MAY INCLUDE:

Thermal decomposition products are dependent on combustion conditions. A complex mixture of airborne solid, liquid, particulates and gasses may evolve when the material burns. Combustion by-products may include:

oxides of carbon

oxides of sulfur

incompletely burned hydrocarbons as fumes and smoke

POSSIBILITY OF HAZARDOUS REACTIONS:

This product is not expected to polymerize

Product Name.....: RIDGID Dark Thread Cutting Oil

Section 11 – Toxicological Information

ACUTE:Oral LD₅₀: Not determinedInhalation LC₅₀: Not determined**CHRONIC:** No further toxicological data known.**SENSITIZATION:** No further toxicological data known.**REPRODUCTIVE EFFECTS:** No further toxicological data known.**TERATOGENIC EFFECTS:** No further toxicological data known.**MUTAGENICITY:** No further toxicological data known.**SYNERGISTIC MATERIALS:** No further toxicological data known.**CARCINOGENICITY:** This product is not listed as a known or suspected carcinogen by IARC, OSHA or the NTP.

Section 12 – Ecological Information

ECOTOXICOLOGICAL INFORMATION:

This product has not been evaluated for ecotoxicity. As with any industrial chemical, exposure to the environment should be prevented and minimized wherever possible.

ENVIRONMENTAL FATE:

The degree of biodegradability and persistence of this product has not been determined.

VOC CONTENT:

2.5%

Product Name.....: RIDGID Dark Thread Cutting Oil

Section 13 – Disposal Consideration

WASTE DISPOSAL:

Ensure that collection, transport, treatment and disposal of waste product and containers complies with all applicable laws and regulations. Note that use, mixture, processing or contamination of the product may cause the material to be classified as a hazardous waste. It is the responsibility of the product user or owner to determine at the time of disposal whether the product is regulated as a hazardous waste.

Section 14 – Transportation Information

U.S. DOT HAZARDOUS MATERIAL INFORMATION:

Not DOT regulated.

CANADA TRANSPORT OF DANGEROUS GOODS:

This material is not TDG regulated.

Section 15 – Regulatory Information

FEDERAL REGULATIONS:**SARA 313:**

This product contains NONE of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

CLEAN WATER ACT:

This product contains mineral oil and is subject to regulation by Section 311 of the Clean Water Act and the Oil Pollution Act. Releases of the product into or leading to surface waters must be reported to the National Response Center at 1-800-424-8802.

Product Name.....: RIDGID Dark Thread Cutting Oil

OERCLA REPORTABLE QUANTITY:

Any components listed below have been assigned a reportable quantity (RQ) by the Federal EPA. Releases of the product into the environment that exceed the RQ for a particular component must be reported to the National Response Center at 1-800-424-8802.

None to report

TOXIC SUBSTANCE CONTROL ACT:

The components of this product are listed on the TSCA Inventory.

OZONE DEPLETING SUBSTANCES:

This product contains no ozone depleting substances as defined by the Clean Air Act.

HAZARDOUS AIR POLLUTANTS:

Any components listed below are defined by the Federal EPA as hazardous air pollutants:

None to report

STATE REGULATIONS

This product contains mineral oil, and as used, may be regulated by state used oil regulations. Check with the appropriate state agency to determine whether such a regulation exists.

CANADA

WHMIS Classification: Not controlled under WHMIS

DSL:

The components of this product are listed on DSL Inventory.



Product Name.....: RIDGID Dark Thread Cutting Oil

Section 16 – Other Information

Prepared by:..... Ridge Tool Company

Issue Date: October 7, 2011

Last Revision Date: October 12, 2009

RIDGE TOOL BELIEVES THE STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE RELIABLE BUT THEY ARE GIVEN WITHOUT WARRANTY OR GUARANTEE OF ANY KIND, EXPRESSED OR IMPLIED, AND WE ASSUME NO RESPONSIBILITY FOR ANY LOSS, DAMAGE OR EXPENSE, DIRECT OR CONSEQUENTIAL, ARISING OUT OF THEIR USE.

CRC MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Electrical Silicone Lubricant (aerosol)

Product Number (s): 02094

Product Use: Electrical silicone 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 Luis 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 edema, 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.

Product Name: Electrical Silicone Lubricant (aerosol)
Product Number (s): 02094

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Hexane isomers	64742-49-0 / 107-83-5	60 - 70
n-Hexane	110-54-3	4.8
Dimethylpolysiloxane	63148-62-9	2 - 5
Liquefied petroleum gas	68476-86-8	25 - 35

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 / -18°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: Electrical Silicone Lubricant (aerosol)

Product Number (s): 02094

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		
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.

Product Name: Electrical Silicone Lubricant (aerosol)
Product Number (s): 02094

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: clear, water-white
Odor: mild solvent
Odor Threshold: ND
Specific Gravity: 0.6694
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: very fast
Solubility: negligible in water
Coefficient of water/oil distribution: ND
pH: NA
Volatile Organic Compounds: wt %: 97 g/L: 649.3 lbs./gal: 5.4

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
Dimethylpolysiloxane	> 5000 mg/kg	> 10,000 mg/kg	> 535 mg/L
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	E & S (mild)	Unknown
n-Hexane	No	No	No	E, S & R (moderate)	Unknown
Dimethylpolysiloxane	No	No	No	No	No
Liquefied petroleum gas	No	No	No	No	No

E - Eye S - Skin R - Respiratory

Product Name: Electrical Silicone Lubricant (aerosol)

Product Number (s): 02094

<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:	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 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

Product Name: Electrical Silicone Lubricant (aerosol)

Product Number (s): 02094

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:
n-hexane (4.8%)

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 not regulated.

State Right to Know:

New Jersey: 75-83-2, 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 : 110-54-3, 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

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

European Union Regulations:

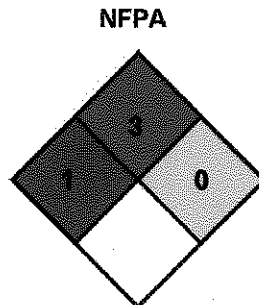
RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Product Name: Electrical Silicone Lubricant (aerosol)
Product Number (s): 02094

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 #: 519D
Revision Date: 09/27/2011

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
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

MSDS - Material Safety Data Sheet**Product Name: LIQUID WRENCH PENETRATING OIL****MSDS No.: L112****I. Basic Information:**

Manufacturer: RADIATOR SPECIALTY COMPANY
 Address: 600 RADIATOR ROAD
 City, ST Zip: INDIAN TRAIL, NC 28079
 Country:

Contact: Robert Geer
 Information Telephone Number: 704-684-1811
 Emergency Contact: RMPDC (877-740-5015)
 Emergency Telephone Number: 303-623-5716
 Emergency Restrictions:

Product Name: LIQUID WRENCH PENETRATING OIL
 MSDS No.: L112

Issue Date: 08/08/2011
 Supersedes Date: 12/13/2010

II. Hazards Identification:**EMERGENCY OVERVIEW**

Danger: Flammable. Harmful or fatal if swallowed. Vapor Harmful. Eye and skin irritant.

Level 3 Aerosol

OSHA Regulatory Status

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

Potential Health Effects**Route(s) of Entry:**

Absorption, Inhalation, and Ingestion.

Health Hazards (Acute and Chronic):

N/D

Signs and Symptoms:

Eye Contact: Irritant. Prolonged contact may cause conjunctivitis.
 Skin Contact: Irritant. Defatting of tissue, dermatitis may occur.
 Inhalation: Irritant to mucous membranes. Repeated exposure may cause narcosis, dizziness, respiratory or lung irritation.
 Ingestion: HARMFUL OR FATAL IF SWALLOWED. May cause burns to mouth, throat & stomach.

Medical Conditions Generally Aggravated by Exposure:

N/D

Other Health Warnings:

Vomiting and subsequent aspiration into the lungs may lead to chemical pneumonia and pulmonary edema which is a potentially fatal condition.

Potential Environmental Effects

Not Available

III. Composition/Information on Ingredients:

Chemical Name	CAS No.	% Range	Trade Secret
Carbon dioxide	124-38-9	1.0 - 5.0	
Corrosion Inhibitor	Proprietary	0.1 - 1.0	
Hydrocarbon Fluid	64742-47-8	60.0 - 100.0	
PTFE/boron nitride colloid	Proprietary	0.1 - 1.0	
TMP Tri-Oleate Polyol Ester	Proprietary	1.0 - 5.0	
Tripropylene Glycol Monomethyl Ether	25498-49-1	7.0 - 13.0	

MSDS - Material Safety Data Sheet

Product Name: LIQUID WRENCH PENETRATING OIL

MSDS No.: L112

IV. First Aid Measures:

Emergency and First Aid Procedures:

Eye Contact: Flush eyes with clean water for 15 minutes while lifting eyelids. Get prompt medical attention.

Skin Contact: Wash with soap and water thoroughly. If adverse effects persist, get prompt medical attention. Launder contaminated clothing before reuse.

Inhalation: Remove to fresh air. If breathing becomes difficult give oxygen and get prompt medical attention. If breathing stops, give artificial respiration and get prompt medical attention.

Ingestion: DO NOT INDUCE VOMITING! Call Poison Control Center, physician, or hospital emergency room immediately. Aspiration of vomitus into the lungs can cause pneumonitis, which can be fatal.

Note to Physicians:

N/E

V. Fire Fighting Measures:

Suitable Extinguishing Media:

Water Fog, Foam, Carbon Dioxide, Dry Chemical

Unsuitable Extinguishing Media:

Do not use forced water stream as this could cause the fire to spread.

Products of Combustion:

Normal products of combustion, smoke, carbon dioxide, carbon monoxide, and sulfur trioxides.

Protection of Firefighters:

Wear self-contained positive pressure breathing apparatus and protective clothes. Use shield to protect from rupturing and venting containers. At elevated temperatures containers may vent, rupture or burst, even violently

VI. Accidental Release Measures:

Personal Precautions:

Eliminate all ignition sources. Persons not wearing protective equipment should be excluded from area of spill until clean up has been completed.

Environmental Precautions:

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. Run off to sewer may create fire or explosion hazard.

Methods for Containment:

Dike or contain spill and absorb with inert materials (sand, sawdust, absorbent sweeping compounds, rags, etc).

Methods for Cleanup:

Using a non-metallic scoop, place contaminated material into an approved chemical waste container. Where possible, vacuum spilled liquid using an explosion proof vacuum to recover material.

Other Information:

All equipment used with handling the concentrate must be grounded. If run-off occurs, notify proper authorities as required that a spill has occurred.

VII. Handling and Storage:

Handling Precautions:

Use with adequate ventilation and proper protective equipment. Do not use or store near fire, sparks, or open flame. Do not puncture or incinerate container. Contact lenses may cause further damage in case of splash into eye. KEEP AWAY FROM CHILDREN AND ANIMALS! Danger: Flammable.

Storage Precautions:

Do not use or store near fire, sparks, or open flame. Store at temperatures below 120°F. Avoid contact with strong oxidizers

VIII. Exposure Controls/Personal Protection:

MSDS - Material Safety Data Sheet**Product Name: LIQUID WRENCH PENETRATING OIL****MSDS No.: L112**

Chemical Name	OSHA PEL	ACGIH TLV	Other Limits
Hydrocarbon Fluid	5 mg/m ³	5 mg/m ³	Not Available
Tripropylene Glycol Monomethyl Ether	N/E	N/E	Not Available
TMP Tri-Oleate Polyol Ester	N/E	N/E	Not Available
Corrosion Inhibitor	N/E	N/E	Not Available
PTFE/boron nitride colloid	N/E	N/E	Not Available
Carbon dioxide	N/AV	5000 ppm	Not Available

Engineering Controls:

Use with adequate ventilation. If TLV is exceeded, wear NIOSH approved respirator.

Personal Protective Equipment:

For prolonged exposure wear protective safety glasses, gloves, and apron.

IX. Physical and Chemical Properties:**Boiling Point:** 320 F**Boiling Range:** Not Available**Solubility In Water:** Insoluble**Flash Point:** 200°F**Odor Threshold:** Not Available**Vapor Density (AIR = 1):** N/A**pH Range:** Not Available**Decomposition Temp:** Not Available**Lower Explosive Limit:** 0.7%**Specific Gravity (H₂O = 1):** 0.89**Other Information:** VOC Content: < 1%**Melting Point:** N/A**Freezing Point:** Not Available**Evaporation Rate (Butyl Acetate = 1):** N/A**Flash Point Method:** TCC**Appearance and Odor:** opaque yellow with pleasant odor**Vapor Pressure (mm Hg.):** N/A**Partition Coefficient:** Not Available**Auto-Ignition Temp:** Not Available**Upper Explosive Limit:** 5%**X. Stability and Reactivity:****Stability:**

Product is stable

Conditions to Avoid:

See Incompatible Materials below

Incompatible Materials:

Avoid contact with strong oxidizers

Hazardous Decomposition Products:

Normal products of combustion, smoke, carbon dioxide, carbon monoxide, and sulfur trioxides.

Possibility of Hazardous Reactions:

Will not occur

XI. Toxicological Information:

N/D

MSDS - Material Safety Data Sheet**Product Name: LIQUID WRENCH PENETRATING OIL**

MSDS No.: L112

XII. Ecological Information:

N/D

XIII. Disposal Considerations:

DISPOSAL: This container may be recycled in aerosol recycling centers when empty. Before offering for recycling, empty the can by using the product according to the label. DO NOT PUNCTURE! If recycling is not available, wrap the container and discard in the trash. Dispose of unused product in accordance with all local, state government and federal laws and regulations.

XIV. Transport Information:

Shipping Name: Not Available

DOT Hazard Class: Not Available

UN/NA#: Not Available

DOT Subsidiary Hazard Class: Not Available

Packing Group: Not Available

Transportation Information:

DOT Hazard Class: ORM-D

Shipping Name: Consumer Commodity

The DOT description is provided to assist in the proper shipping classification of this product and may not be suitable for international and air shipping purposes.

ICAO/IATA (US)

Shipping Name: Aerosols

Class: 2.1

UN number: UN1950

International:**ICAO/IATA**

UN number: UN1950

Shipping Name: Aerosols

Class: 2.1

IMDG

UN number: UN1950

Shipping Name: Aerosols

Class: 2.1

EmS: F-D, S-U

XV. Regulatory Information:

SARA 313 Reportable Chemicals:

None

USA TSCA: All components of this material are listed on the US TSCA Inventory.

State RTK Chemicals:

None

MSDS - Material Safety Data Sheet

Product Name: LIQUID WRENCH PENETRATING OIL

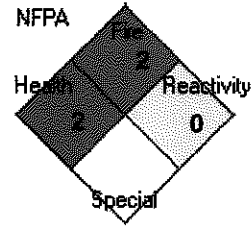
MSDS No.: L112

XVI. Other Information:

Chemical State: Liquid Gas Solid

Chemical Type: Pure Mixture

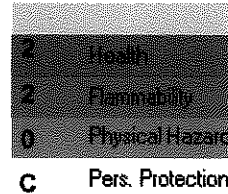
Hazard Category: Acute Chronic Fire Pressure Reactive



Additional Manufacturer Warnings:

Do not used in confined area without proper ventilation. Contact lenses may cause further damage in case of splash into eye. KEEP AWAY FROM CHILDREN AND ANIMALS!

N/E: Not Established
N/D: Not Determined
N/A: Not Applicable
N/AV: Not Available



Additional Product Information:

While Radiator Specialty Company believes this data is accurate as of the revision date, we make no warranty with respect to the data and we expressly disclaim all liability for reliance thereon. The data is offered solely for information, investigation, and verification. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this MSDS. The user is responsible for full compliance.



MATERIAL SAFETY DATA SHEET

LPS® 1

Revision Date: September 19, 2011

Supersedes: November 19, 2008

Section 1 • Product and Company Identification

Product Name: LPS® 1

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

Chemical Name: Petroleum Distillates

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

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

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

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

Section 2 • Hazards Identification

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

Emergency Overview:**Aerosol:** DANGER: Flammable. Contents under pressure. Harmful or fatal if swallowed.**Bulk:** DANGER: Combustible. Keep away from heat and flame. Harmful or fatal if swallowed.**Primary route(s) of entry:** Skin and eye contact. Inhalation.**Potential Acute Health Effects:**

Eyes: Irritating to eyes.

Skin: Repeated exposure may cause skin dryness or cracking.

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

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

Potential Chronic Health Effects:

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

Mutagenic Effects: None

Teratogenic Effects: None

Target Organs: None



MATERIAL SAFETY DATA SHEET

LPS® 1

Revision Date: September 19, 2011

Supersedes: November 19, 2008

Medical conditions aggravated by exposure:

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

Signs and Symptoms

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

Section 3 • Composition / Information on Ingredients

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

Section 4 • First Aid Measures

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



MATERIAL SAFETY DATA SHEET

LPS® 1

Revision Date: September 19, 2011

Supersedes: November 19, 2008

Section 5 • Fire Fighting Measures

Products of Combustion: Carbon monoxide and carbon dioxide.

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

Firefighting media: SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use CO₂, water spray, fog or foam. Cool containing vessels with water jet in order to prevent pressure build-up, auto-ignition or explosions.

Sensitivity to Impact: None **Sensitivity to Static Discharge:** None

Protection Clothing (Fire): Wear protective clothing and equipment suitable for the surrounding fire, including helmet, face mask, and self-contained breathing apparatus.

Special Remarks on Explosion Hazards:

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

Section 6 • Accidental Release Measures

Containment Procedures: **Small Spill and Leak:** Absorb with an inert material and dispose of properly.

Large Spill and Leak: Secure the area and control access. Dike far ahead of a liquid spill to ensure complete collection. Pick up free liquid for disposal using absorbent pads, sand, or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal.

Clean-Up Procedures: Contain and recover spilled material when possible.

Evacuation Procedures: Ventilate area of leak or spill. Keep unnecessary and unprotected people away.

Special Procedures: Remove all sources of ignition. Ventilate area. Wear personal protective equipment during cleanup.

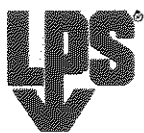
Section 7 • Handling and Storage

Handling: DO NOT spray into or around ignition sources. DO NOT allow material to come in contact with eyes or skin. Wear appropriate protective equipment during handling. Keep container closed. Avoid breathing vapors or mists. Use only with adequate ventilation. Wash thoroughly after handling.

Storage: Keep container in a cool, well-ventilated area. Avoid all sources of ignition (spark or flame). Store between 40°F and 120°F (4.4°C and 49°C).

Precautions to be taken in handling and storage:

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



MATERIAL SAFETY DATA SHEET

LPS® 1

Revision Date: September 19, 2011

Supersedes: November 19, 2008

Section 8 • Exposure Controls / Personal Protection

Exposure Guidelines:

Component	CASRN	OSHA	ACGIH	NIOSH	Supplier
Distillates (Petroleum), Hydrotreated Light	64742-47-8	5 mg/m ³ (oil mist) PEL	5 mg/m ³ (oil mist) TLV 10 mg/m ³ (oil mist) STEL	5 mg/m ³ (oil mist) TWA 10 mg/m ³ (oil mist) STEL	100 ppm TWA 525 mg/m ³ TWA
Distillates (Petroleum), Hydrotreated Middle	64742-46-7	5 mg/m ³ (oil mist) PEL	5 mg/m ³ (oil mist) TLV 10 mg/m ³ (oil mist) STEL	5 mg/m ³ (oil mist) TWA 10 mg/m ³ (oil mist) STEL	None reported
Carbon Dioxide (aerosol only)	124-38-9	5000 ppm PEL	5000 ppm TLV 30000 ppm STEL	5000 ppm TWA 30000 ppm STEL	None reported

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

Personal protective equipment

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

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

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

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



MATERIAL SAFETY DATA SHEET

LPS® 1

Revision Date: September 19, 2011

Supersedes: November 19, 2008

Section 9 • Physical and Chemical Properties

Appearance:	Liquid	Color:	Pale amber
Odor:	Characteristic	Evaporation Rate:	< 0.1 (BuAc = 1)
Solubility Description:	Not soluble in water	Flash Point:	79°C (175°F) - dispensed liquid
Boiling Point:	213°C (415°F)	Flash Point Method:	Tag-Closed Cup
Specific Gravity (H₂O=1):	0.79 - 0.81 @ 20°C	Decomposition Temperature:	Not established
Vapor Density (air = 1):	> 1	Auto ignition temperature:	> 228°C (442°F)
Vapor Pressure:	< 0.05 mm Hg @ 20°C	Flammable limits (estimated):	LOWER: 0.6% UPPER: 7.0%
Rule 1171 PPc:	Not applicable	Partition Coefficient (octanol/water):	< 1
V.O.C. Content:	Aerosol: < 25.0% per State & Federal Consumer Product Regulations Bulk: < 25.0% per State & Federal Consumer Product Regulations	Odor Threshold:	Not established
Melting Point:	< -50°C (-58°F)	Viscosity:	< 3.8 cSt @ 25°C
pH:	Not applicable	Volatiles:	95 - 96%
Heat of combustion:	Aerosol: > 30 kJ/g Bulk: > 30 kJ/g		

Section 10 • Stability and Reactivity

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



MATERIAL SAFETY DATA SHEET
LPS® 1

Revision Date: September 19, 2011

Supersedes: November 19, 2008

Section 11 • Toxicological Information

Acute and Chronic Toxicity

A: General Product Information

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

B: Component Analysis

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

* Supplier Data

Section 12 • Ecological Information

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

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

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

Ecotoxicity

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

* Supplier Data

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

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



MATERIAL SAFETY DATA SHEET
LPS® 1

Revision Date: September 19, 2011

Supersedes: November 19, 2008

Section 13 • Disposal Considerations

- Waste Status:** In its purchased form, non-aerosol material does not meet the definition of a RCRA hazardous waste. Aerosol products, if depressurized and emptied to less than 1 inch (2.54 cm) of fluid contents are classified as non-hazardous waste under 40 CFR 261.7 (U.S.). However, if disposed of in its received form, an aerosol carries the waste code D003. (U.S.).
- Disposal:** Waste must be disposed of in accordance with any and all applicable environmental control rules and/or regulations.
- Note:** Chemical additions to, processing of, or otherwise altering this material may make this waste management information inaccurate, incomplete, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive than federal laws and regulations.

Section 14 • Transport Information

Aerosol

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

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

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



MATERIAL SAFETY DATA SHEET
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Revision Date: September 19, 2011

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Section 15 • Regulatory Information

U.S. Federal Regulations

RCRA Hazardous Waste No.: D003 (aerosol only)

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

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

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

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

Section 112 Hazardous Air Pollutants (HAPs): None

State Regulations

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

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

New Jersey Right to Know:

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


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

International Regulations


Canadian Environmental Protection Act (CEPA):
All of the components of this product are included on the Canadian Domestic Substances list (DSL).

Canadian Workplace Hazardous Materials Information System WHMIS:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification:
Aerosol: Class A, Class B5, Class D2B



WHMIS Classification:
Bulk: Class B3, Class D2B



Other Regulations:

Montreal Protocol listed ingredients:	None
Stockholm Convention listed ingredients:	None
Rotterdam Convention listed ingredients:	None
RoHS Compliant:	Yes




MATERIAL SAFETY DATA SHEET
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Revision Date: September 19, 2011

Supersedes: November 19, 2008

Section 16 • Other Information

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

Notice to Reader:

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

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



602631-00 MOBIL DTE 25
MATERIAL SAFETY DATA BULLETIN

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MOBIL DTE 25
SUPPLIER: EXXONMOBIL OIL CORPORATION
3225 GALLOWS RD.
FAIRFAX, VA 22037

24 - Hour Health and Safety Emergency (call collect): 609-737-4411

24 - Hour Transportation Emergency:
CHEMTREC: 800-424-9300 202-483-7616
LUBES AND FUELS: 281-834-3296

Product and Technical Information:
Lubricants and Specialties: 800-662-4525 800-443-9966
Fuels Products: 800-947-9147
MSDS Fax on Demand: 613-228-1467
MSDS Internet Website: <http://emmsds.ihssolutions.com/>

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES

GLOBALLY REPORTABLE MSDS INGREDIENTS:

None.

See Section 8 for exposure limits (if applicable).

3. HAZARDS IDENTIFICATION

Under normal conditions of use, this product is not considered hazardous according to regulatory guidelines (See section 15).

EMERGENCY OVERVIEW: Dark Amber Liquid. Note: Pressurized mists may form a flammable mixture. DOT ERG No. : NA

POTENTIAL HEALTH EFFECTS: Under normal conditions of intended use, this product does not pose a risk to health. Excessive exposure

may result in eye, skin or respiratory irritation.

For further health effects/toxicological data, see Section 11.

4. FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with water. If irritation occurs, call a physician.

SKIN CONTACT: Wash contact areas with soap and water. Remove and clean oil soaked clothing daily and wash affected area.

INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

INHALATION: Not expected to be a problem. However, if respiratory irritation, dizziness, nausea, or unconsciousness occurs due to excessive vapor or mist exposure, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or mouth-to-mouth resuscitation.

INGESTION: Not expected to be a problem. Seek medical attention if discomfort occurs. Do not induce vomiting.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing.

Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

SPECIAL PROTECTIVE EQUIPMENT: For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Note: Pressurized mists may form a flammable mixture.

COMBUSTION PRODUCTS: Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

Flash Point C(F): > 200(392) (ASTM D-92).

Flammable Limits (approx.% vol.in air) - LEL: 0.9%, UEL: 7.0%

NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0

6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: Report spills/releases as required to appropriate authorities. U.S. Coast Guard and EPA regulations require immediate reporting of spills/releases that could reach any waterway including intermittent dry creeks. Report spill/release to Coast Guard National Response Center toll free number (800)424-8802. In case of accident or road spill notify CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:

LAND SPILL: Shut off source taking normal safety precautions. Take measures to minimize the effects on ground water. Recover by pumping or contain spilled material with sand or other suitable absorbent and remove mechanically into containers. If necessary, dispose of adsorbed residues as directed in Section 13.

WATER SPILL: Confine the spill immediately with booms. Warn other ships in the vicinity. Notify port and other relevant authorities. Remove from the surface by skimming or with suitable absorbents. If permitted by regulatory authorities the use of suitable dispersants should be considered where recommended in local oil spill procedures.

ENVIRONMENTAL PRECAUTIONS: Prevent material from entering sewers, water sources or low lying areas; advise the relevant authorities if it has, or if it contaminates soil/vegetation.

PERSONAL PRECAUTIONS: See Section 8

7. HANDLING AND STORAGE

HANDLING: High pressure injection under the skin may occur due to the rupture of pressurized lines. Always seek medical attention. No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.

STORAGE: Keep containers closed when not in use. Do not store in open or unlabelled containers. Store away from strong oxidizing agents and combustible materials. Do not store near heat, sparks, flame or strong oxidants.

SPECIAL PRECAUTIONS: Prevent small spills and leakages to avoid slip hazard.

EMPTY CONTAINER WARNING: Empty containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

When mists/aerosols can occur, the following are recommended: 5 mg/m³ (as oil mist)- ACGIH Threshold Limit Value (TLV), 10 mg/m³ (as oil mist) - ACGIH Short Term Exposure Limit (STEL), 5 mg/m³ (as oil mist) - OSHA Permissible Exposure Limit (PEL)

VENTILATION: If mists are generated, use adequate ventilation, local exhaust or enclosures to control below exposure limits.

RESPIRATORY PROTECTION: If mists are generated, and/or when ventilation is not adequate, wear approved respirator.

EYE PROTECTION: If eye contact is likely, safety glasses with side

shields or chemical type goggles should be worn.
SKIN PROTECTION: Not normally required. When splashing or liquid contact can occur frequently, wear oil resistant gloves and/or other protective clothing. Good personal hygiene practices should always be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical physical properties are given below. Consult Product Data Sheet for specific details.

APPEARANCE: Liquid
COLOR: Dark Amber
ODOR: Mild
ODOR THRESHOLD-ppm: NE
pH: NA
BOILING POINT C(F): > 316(600)
MELTING POINT C(F): NA
FLASH POINT C(F): > 200(392) (ASTM D-92)
FLAMMABILITY (solids): NE
AUTO FLAMMABILITY C(F): NA
EXPLOSIVE PROPERTIES: NA
OXIDIZING PROPERTIES: NA
VAPOR PRESSURE-mmHg 20 C: < 0.1
VAPOR DENSITY: > 2.0
EVAPORATION RATE: NE
RELATIVE DENSITY, 15/4 C: 0.876
SOLUBILITY IN WATER: Negligible
PARTITION COEFFICIENT: > 3.5
VISCOSITY AT 40 C, cSt: 44.2
VISCOSITY AT 100 C, cSt: 6.6
POUR POINT C(F): < -18(0)
FREEZING POINT C(F): NE
VOLATILE ORGANIC COMPOUND: NE
DMSO EXTRACT, IP-346 (WT.%): <3, for mineral oil only
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

10. STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC.): Stable.
CONDITIONS TO AVOID: Extreme heat and high energy sources of ignition.
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Product does not decompose at ambient temperatures.
HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL DATA

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.



DERMAL TOXICITY (RABBITS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.

INHALATION TOXICITY (RATS): Practically non-toxic (LC50: greater than 5 mg/l). ---Based on testing of similar products and/or the components.

EYE IRRITATION (RABBITS): Practically non-irritating. (Draize score: greater than 6 but 15 or less). ---Based on testing of similar products and/or the components.

SKIN IRRITATION (RABBITS): Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3). ---Based on testing of similar products and/or the components.

OTHER ACUTE TOXICITY DATA: Although an acute inhalation study was not performed with this product, a variety of mineral and synthetic oils, such as those in this product, have been tested. These samples had virtually no effect other than a nonspecific inflammatory response in the lung to the aerosolized mineral oil. The presence of additives in other tested formulations (in approximately the same amounts as in the present formulation) did not alter the observed effects.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

No significant adverse effects were found in studies using repeated dermal applications of similar formulations to the skin of laboratory animals for 13 weeks at doses significantly higher than those expected during normal industrial exposure. The animals were evaluated extensively for effects of exposure (hematology, serum chemistry, urinalysis, organ weights, microscopic examination of tissues etc.).

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---

No teratogenic effects would be expected from dermal exposure, based on laboratory developmental toxicity studies of major components in this formulation and/or materials of similar composition.

---CHRONIC TOXICOLOGY (SUMMARY)---

Repeated and/or prolonged exposure may cause irritation to the skin, eyes or respiratory tract. Overexposure to oil mist may result in oil droplet deposition and/or granuloma formation. For mineral base oils: Base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of severely treated oils showed no evidence of carcinogenic effects. These results are confirmed on a continuing basis using various screening methods such as Modified Ames Test, IP-346, and/or other analytical methods. For synthetic base oils: The base oils in this product have been tested in the Ames assay and other tests of mutagenicity with negative results. These base oils are not expected to be carcinogenic with chronic dermal exposures.

---SENSITIZATION (SUMMARY)---

Not expected to be sensitizing based on tests of this product, components, or similar products.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS:

In the absence of specific environmental data for this product, this assessment is based on information for representative products.

ECOTOXICITY: Available ecotoxicity data (LL50 >1000 mg/L) indicates that adverse effects to aquatic organisms are not expected from this product.

MOBILITY: When released into the environment, adsorption to sediment and soil will be the predominant behavior.

PERSISTENCE AND DEGRADABILITY: This product is expected to be inherently biodegradable.

BIOACCUMULATIVE POTENTIAL: Bioaccumulation is unlikely due to the very low water solubility of this product, therefore bioavailability to aquatic organisms is minimal.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Product is suitable for burning in an enclosed, controlled burner for fuel value. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at an appropriate government waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity. The unused product is not formulated with substances covered by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

14. TRANSPORT INFORMATION

USA DOT: NOT REGULATED BY USA DOT.

RID/ADR: NOT REGULATED BY RID/ADR.

IMO: NOT REGULATED BY IMO.

IATA: NOT REGULATED BY IATA.

STATIC ACCUMULATOR (50 picosiemens or less): YES

15. REGULATORY INFORMATION

US OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this product is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

EU Labeling: Product is not dangerous as defined by the European Union Dangerous Substances/Preparations Directives. EU labeling not required.

Governmental Inventory Status: All components comply with TSCA, EINECS/ELINCS, AICS, METI, and DSL.

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III: This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

This product contains no chemicals subject to the supplier notification requirements of SARA (313) toxic release program.

The following product ingredients are cited on the lists below:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS *
ZINC (ELEMENTAL ANALYSIS) (0.08%)	7440-66-6	22
ZINC ALKYL DITHIOPHOSPHATE (0.67%)	68649-42-3	22

--- REGULATORY LISTS SEARCHED ---

1=ACGIH ALL	6=IARC 1	11=TSCA 4	16=CA P65 CARC	21=LA RTK
2=ACGIH A1	7=IARC 2A	12=TSCA 5a2	17=CA P65 REPRO	22=MI 293
3=ACGIH A2	8=IARC 2B	13=TSCA 5e	18=CA RTK	23=MN RTK
4=NTP CARC	9=OSHA CARC	14=TSCA 6	19=FL RTK	24=NJ RTK
5=NTP SUS	10=OSHA Z	15=TSCA 12b	20=IL RTK	25=PA RTK
				26=RI RTK

* EPA recently added new chemical substances to its TSCA Section 4 test rules. Please contact the supplier to confirm whether the ingredients in this product currently appear on a TSCA 4 or TSCA 12b list.

Code key: CARC=Carcinogen; SUS=Suspected Carcinogen; REPRO=Reproductive

16. OTHER INFORMATION

USE: HYDRAULIC OIL

NOTE: PRODUCTS OF EXXON MOBIL CORPORATION AND ITS AFFILIATED COMPANIES ARE NOT FORMULATED TO CONTAIN PCBS.

Health studies have shown that many hydrocarbons pose potential human health risks which may vary from person to person. Information provided on this MSDS reflects intended use. This product should not be used for other applications. In any case, the following advice should be considered:

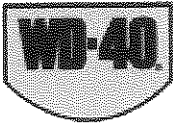
INDUSTRIAL LABEL

Under normal conditions of intended use, this product does not pose a risk to health. Excessive exposure may result in eye, skin or respiratory irritation. Always observe good hygiene measures. First Aid: Wash skin with soap and water. Flush eyes with water. If overcome by fumes or vapor, remove to fresh air. If ingested do not induce vomiting. If symptoms persist seek medical assistance. Read and understand the MSDS before using this product.

For Internal Use Only: MHC: 1* 1* 1* 1* 1*, MPPEC: A, TRN: 602631-00,
ELIS: 400327, CMCS97: 970826, REQ: US - MARKETING, SAFE USE: L
EHS Approval Date: 23OCT2002

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, republication or retransmission of this document, in whole or in part, is not permitted. Exxon Mobil Corporation and its affiliated companies assume no responsibility for accuracy of information unless the document is the most current available from an official ExxonMobil distribution system. Exxon Mobil Corporation and its affiliated companies neither represent nor warrant that the format, content or product formulas contained in this document comply with the laws of any other country except the United States of America.

Prepared by: ExxonMobil Oil Corporation
Environmental Health and Safety Department, Clinton, USA



Material Safety Data Sheet

1 - Chemical Product and Company Identification

Manufacturer: WD-40 Company Address: 1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California, USA 92138 -0607 Telephone: Emergency only: 1-888-324-7596 (PROSAR) Information: 1-888-324-7596 Chemical Spills: 1-800-424-9300 (Chemtrec) 1-703-527-3887 (International Calls)	Chemical Name: Organic Mixture Trade Name: WD-40 Aerosol Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion MSDS Date Of Preparation: 3/11/10
--	--

2 - Hazards Identification

Emergency Overview:

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

Symptoms of Overexposure:

Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.

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

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

Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.

Chronic Effects: None expected.

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

Suspected Cancer Agent:

Yes No

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent
Aliphatic Hydrocarbon	64742-47-8	45-50
Petroleum Base Oil	64742-58-1 64742-53-6 64742-56-9 64742-65-0	<25
LVP Aliphatic Hydrocarbon	64742-47-8	12-18
Carbon Dioxide	124-38-9	2-3
Surfactant	Proprietary	<2
Non-Hazardous Ingredients	Mixture	<10

4 - First Aid Measures

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

Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.

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

5 – Fire Fighting Measures

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

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

Unusual Fire and Explosion Hazards: Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

6 – Accidental Release Measures

Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area. Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.

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

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Aliphatic Hydrocarbon	1200 mg/m ³ TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m ³ TWA, 10 mg/m ³ STEL ACGIH TLV 5 mg/m ³ TWA OSHA PEL
LVP Aliphatic Hydrocarbon	1200 mg/m ³ TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA (OSHA/ACGIH), 30,000 ppm STEL (ACGIH)
Surfactant	None Established
Non-Hazardous Ingredients	None Established

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

Engineering Controls: Use in a well-ventilated area.

Personal Protection:

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

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

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

For Bulk Processing or Workplace Use the Following Controls are Recommended

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

Personal Protection:**Eye Protection:** Safety goggles recommended where eye contact is possible.**Skin Protection:** Wear chemical resistant gloves.**Respiratory Protection:** None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.**Work/Hygiene Practices:** Wash with soap and water after handling.**9 – Physical and Chemical Properties**

Boiling Point:	361 - 369°F (183 - 187°C)	Specific Gravity:	0.8 – 0.82 @ 60°F
Solubility in Water:	Insoluble	pH:	Not Applicable
Vapor Pressure:	95-115 PSI @ 70°F	Vapor Density:	Greater than 1
Percent Volatile:	70-75%	VOC:	412 grams/liter (49.5%)
Coefficient of Water/Oil Distribution:	Not Determined	Appearance/Odor	Light amber liquid/mild odor
Flash Point:	122°F (49°C) Tag Open Cup (concentrate)	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8.0%
Pour Point:	-63°C (-81.4°F) ASTM D-97	Kinematic Viscosity:	2.79-2.96cSt @ 100°F

10 – Stability and Reactivity**Stability:** Stable**Hazardous Polymerization:** Will not occur.**Conditions to Avoid:** Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.**Incompatibilities:** Strong oxidizing agents.**Hazardous Decomposition Products:** Carbon monoxide and carbon dioxide.**11 – Toxicological Information**

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

12 – Ecological Information

No data is currently available.

13 – Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description: Consumer Commodity, ORM-D

IMDG Shipping Description: Un1950, Aerosols, 2.1, LTD QTY

15 – Regulatory Information**U.S. Federal Regulations:**

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

SARA TITLE III:

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

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III

Section 313 Reporting requirements: None

Section 302 Extremely Hazardous Substances (TPQ): None

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

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not contain chemicals regulated under California Proposition 65.

VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.

Canadian Environmental Protection Act: One of the components is listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.

Canadian WHMIS Classification: Class B-5 (Flammable Aerosol)

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

16 – Other Information:

HMIS Hazard Rating:

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

SIGNATURE: 

TITLE: Director of Global Quality Assurance

REVISION DATE: March 2010

SUPERSEDES: August 2009

MATERIAL SAFETY DATA SHEET 3M Brand Fire Barrier CP-25WB+ 11/21/11
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Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M Brand Fire Barrier CP-25WB+
MANUFACTURER: 3M
DIVISION: Building & Commercial Services Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000

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

Issue Date: 11/21/11
Supersedes Date: 10/19/11

Document Group: 09-5451-1

Product Use:

Intended Use: Fire Protection
Specific Use: Used as Firestop in buildings.

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
Polymer	Trade Secret	10 - 30
Water	7732-18-5	10 - 30
ZINC BORATE 2335	138265-88-0	10 - 30
Sodium Silicate	1344-09-8	10 - 30
Ethylhexyldiphenyl Phosphate	1241-94-7	3 - 7
OXIDE GLASS CHEMICALS	65997-17-3	1 - 5
Polyethylene Glycol	25322-68-3	1 - 5
Iron Oxide	1309-37-1	1 - 5

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Paste
Odor, Color, Grade: Red with negligible odor
General Physical Form: Solid
Immediate health, physical, and environmental hazards:

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

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

Skin Contact:

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

Inhalation:

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

Ingestion:

May be harmful if swallowed.

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

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Prolonged or repeated exposure may cause:

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

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

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

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

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

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

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

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>Not Applicable</i>
Flash Point	No flash point
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
OSHA Flammability Classification:	Not Applicable

5.2 EXTINGUISHING MEDIA

Non-combustible. Choose material suitable for surrounding fire.

5.3 PROTECTION OF FIRE FIGHTERS

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

Unusual Fire and Explosion Hazards: Not applicable.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Collect the resulting residue containing solution. Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

Clean-up methods

Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Collect as much of the spilled material as possible. Clean up residue with water.

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

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

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

7.2 STORAGE

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use in a well-ventilated area.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Indirect Vented Goggles

8.2.2 Skin Protection

Avoid skin contact.

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

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

8.2.3 Respiratory Protection

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

8.2.4 Prevention of Swallowing

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

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
Iron Oxide	ACGIH	TWA, respirable fraction	5 mg/m3	
Iron Oxide	OSHA	TWA, as fume	10 mg/m3	
OXIDE GLASS CHEMICALS	Manufacturer determined	TWA, as dust	10 mg/m3	
Polyethylene Glycol	AIHA	TWA, as particulate	10 mg/m3	

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Paste
Odor, Color, Grade:	Red with negligible odor
General Physical Form:	Solid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	No flash point
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>

Specific Gravity	1.35 [Ref Std: WATER=1]
Melting point	<i>No Data Available</i>
Solubility in Water	Complete
Volatile Organic Compounds	< 1 g/l
VOC Less H2O & Exempt Solvents	< 1 g/l

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

None known

10.2 Materials to avoid

None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

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

SECTION 11: TOXICOLOGICAL INFORMATION

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

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of waste product in a facility permitted to accept chemical waste.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

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

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

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

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

STATE REGULATIONS

CHEMICAL INVENTORIES

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

INTERNATIONAL REGULATIONS

WHMIS: Hazardous

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

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

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

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

HMIS Hazard Classification

Health: 2 Flammability: 1 Reactivity: 0 Protection: X - See PPE section.

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

Reason for Reissue: Reissued to make corrections in tables.

Revision Changes:

Section 15: Inventories information was modified.

Section 15: International regulations information was deleted.

Section 15: State regulations information was deleted.

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MATERIAL SAFETY DATA SHEET 3M Fire Barrier Moldable Putty + Pads 11/22/11



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M Fire Barrier Moldable Putty + Pads
MANUFACTURER: 3M
DIVISION: Building & Commercial Services Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000

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

Issue Date: 11/22/11
Supersedes Date: 10/09/09

Document Group: 21-2441-0

Product Use:

Intended Use: Passive fire protection in industrial applications

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
Methyl Esters of Hydrogenated Rosin	8050-15-5	10 - 30
Styrene-Butadiene Polymer	9003-55-8	10 - 30
ZINC BORATE 2335	138265-88-0	10 - 30
Sodium Silicate	1344-09-8	10 - 30
Polybutylene	9003-29-6	10 - 30
Melamine Phosphate	41583-09-9	7 - 13
Glass Wool	65997-17-3	3 - 7
RAYON FIBER	None	1 - 5
Amorphous Silica	112945-52-5	1 - 5
Water	7732-18-5	1 - 5
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	62258-49-5	1 - 5
Butadiene-Styrene-Meta-Divinylbenzene Polymer	26471-45-4	1 - 5
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	1 - 5
Rosin	8050-09-7	0.1 - 1

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Putty

Odor, Color, Grade: Red putty with pine-like odor

General Physical Form: Solid

Immediate health, physical, and environmental hazards: May cause severe eye irritation. May cause allergic skin reaction.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Skin Contact:

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

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

Inhalation:

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

Ingestion:

May be harmful if swallowed.

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

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Prolonged or repeated exposure may cause:

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

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

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

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

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

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

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

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature

Not Applicable

Flash Point

No flash point

Flammable Limits(LEL)

Not Applicable

Flammable Limits(UEL)

Not Applicable

OSHA Flammability Classification: Not Applicable

5.2 EXTINGUISHING MEDIA

Non-combustible. Choose material suitable for surrounding fire.

5.3 PROTECTION OF FIRE FIGHTERS

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

Unusual Fire and Explosion Hazards: Not applicable.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air.

6.2 Environmental precautions

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

Clean-up methods

Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Collect as much of the spilled material as possible. Clean up residue.

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

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

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

7.2 STORAGE

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use in a well-ventilated area.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

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

8.2.2 Skin Protection

Avoid skin contact.

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

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

Neoprene

Nitrile Rubber

8.2.3 Respiratory Protection

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

8.2.4 Prevention of Swallowing

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

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
BUTENES	ACGIH	TWA	250 ppm	
Glass Wool	Manufacturer determined	TWA, as dust	10 mg/m3	
PETROLEUM DISTILLATES	OSHA	TWA	2000 mg/m3	Sensitizer, Cntrl all exposr-low as possib
Rosin	ACGIH	Limit value not established	****Missing Data**** No UOM specified or needed.	

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Putty
Odor, Color, Grade:	Red putty with pine-like odor
General Physical Form:	Solid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	No flash point
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>

Specific Gravity

1.25 [Ref Std: WATER=1]

Melting point	Not Applicable
Solubility In Water	No Data Available
Volatile Organic Compounds	< 1 % weight
VOC Less H2O & Exempt Solvents	< 1 g/l

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

None known

10.2 Materials to avoid

None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

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

SECTION 11: TOXICOLOGICAL INFORMATION

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

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

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

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

44-0042-9351-8, 44-0042-9352-6, 98-0400-5524-0, 98-0400-5525-7, 98-0400-5526-5, 98-0400-5547-1

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

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

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

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

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

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

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

INTERNATIONAL REGULATIONS

Contact 3M for more information.

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

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

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

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

Reason for Reissue: change SOS for zinc borate

IH review of PPE

Revision Changes:

Section 1: Product use information was modified.

Section 16: Disclaimer (second paragraph) was modified.

Section 4: First aid for eye contact - decontamination - was modified.

Section 4: First aid for eye contact - medical assistance - was modified.

Section 3: Potential effects from eye contact was modified.

Section 7: Handling information was modified.
Section 10: Hazardous decomposition or by-products table was modified.
Section 8: Eye/face protection information was modified.
Section 8: Skin protection - recommended gloves information was modified.
Section 14: Transportation legal text was modified.
Section 15: Inventories information was modified.
Section 5: Flammable limits (UE) information was modified.
Section 5: Flammable limits (LEL) information was modified.
Section 5: Autoignition temperature information was modified.
Section 5: Flash point information was modified.
Section 9: Property description for optional properties was modified.
Section 9: Specific gravity information was modified.
Section 9: Melting point information was modified.
Section 9: Solubility in water value was modified.
Section 9: Flash point information was modified.
Section 9: Flammable limits (LEL) information was modified.
Section 9: Flammable limits (UEL) information was modified.
Section 9: Autoignition temperature information was modified.
Section 2: Ingredient table was modified.
Section 15: EPCRA 313 information was modified.
Section 8: Exposure guidelines ingredient information was modified.
Section 10: Materials to avoid physical property was modified.
Section 10: Conditions to avoid physical property was modified.
Section 3: Immediate eye hazard(s) was added.
Section 6: 6.2. Environmental precautions heading was added.
Section 6: 6.1. Personal precautions, protective equipment and emergency procedures heading was added.
Section 16: Web address was added.
Section 1: Address was added.
Copyright was added.
Company logo was added.
Section 6: Clean-up methods heading was added.
Telephone header was added.
Company Telephone was added.
Section 1: Emergency phone information was added.
Section 1: Emergency phone information was deleted.
Company Logo was deleted.
Copyright was deleted.
Section 16: Web address heading was deleted.
Section 6: Release measures heading was deleted.
Section 1: Address line 1 was deleted.
Section 1: Address line 2 was deleted.

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MATERIAL SAFETY DATA SHEET 3M(TM) Fire Barrier Sealant FD 150+, Red 07/14/10
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Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(TM) Fire Barrier Sealant FD 150+, Red
MANUFACTURER: 3M
DIVISION: Building & Commercial Services Division

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

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

Issue Date: 07/14/10
Supersedes Date: 05/05/10

Document Group: 27-3508-2

Product Use:

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

SECTION 2: INGREDIENTS

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

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Paste

Odor, Color, Grade: Red paste with low odor

General Physical Form: Solid

Immediate health, physical, and environmental hazards:
cancer. May cause target organ effects.

Contains a chemical or chemicals which can cause

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

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

Skin Contact:

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

Inhalation:

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

May be absorbed following inhalation and cause target organ effects.

Ingestion:

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

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

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

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

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

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

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

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

This product contains quartz silica. Lung cancer and silicosis have been associated with exposure to quartz silica. No user exposure to quartz silica from this product is anticipated during normal intended use. Warnings are provided to comply with US federal and state regulations.

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Class Description</u>	<u>Regulation</u>
Quartz Silica	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

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

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

Skin Contact: Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

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

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

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
OSHA Flammability Classification:	<i>Not Applicable</i>

5.2 EXTINGUISHING MEDIA

Non-combustible. Choose material suitable for surrounding fire.

5.3 PROTECTION OF FIRE FIGHTERS

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

Unusual Fire and Explosion Hazards: Not applicable.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions

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

Environmental procedures

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

Clean-up methods

Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Collect as much of the spilled material as possible. Clean up residue.

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

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

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

7.2 STORAGE

Store away from oxidizing agents. Store in a cool, dry place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use in a well-ventilated area.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

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

8.2.2 Skin Protection

Avoid skin contact.

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

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

8.2.3 Respiratory Protection

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

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with

OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges
 . Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing

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

8.3 EXPOSURE GUIDELINES

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

SOURCE OF EXPOSURE LIMIT DATA:

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Paste
Odor, Color, Grade:	Red paste with low odor
General Physical Form:	Solid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>

Specific Gravity 1.45 [Ref Std: WATER=1]

Melting point *No Data Available*

Volatile Organic Compounds < 15 % weight
VOC Less H2O & Exempt Solvents < 250 g/l

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

None known

10.2 Materials to avoid

Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide

Condition

Not Specified
Not Specified

SECTION 11: TOXICOLOGICAL INFORMATION

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

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

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

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

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

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

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

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

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

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

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

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

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

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

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

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

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

HMIS Hazard Classification

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

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

Reason for Reissue: Added new sku

Revision Changes:

- Section 3: Carcinogenicity comment was modified.
- Section 2: Ingredient table was modified.
- Section 6: Environmental procedures heading was added.
- Section 6: Personal precautions heading was added.
- Section 6: Clean-up methods heading was added.
- Section 6: Release measures heading was deleted.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.

3M MSDSs are available at www.3M.com



Material Safety Data Sheet

CHEMTREC Transportation
Emergency Phone: 800-424-9300

Pittsburgh Poison Control Center
Health Emergency No.:
412-681-6669

NOTE: The CHEMTREC Transportation
Emergency Phone is to be used only in the
event of chemical emergencies involving a spill,
leak, fire, exposure or accident involving
chemicals

Section 1 - Chemical Product / Company Information

Product Name: A/D FIREBARRIER Silicone
Revision Date: 03/03/2010
Identification Number: 02AD0500007
Supercedes : 10/14/2008
Product Use/Class: FOR INDUSTRIAL USE ONLY
Preparer: Technical Service Department
Manufacturer: A/D Fire Protection Systems Inc.
420 Tapscott Rd.
Scarborough, Ontario
M1B 1Y4
Tel. No. (800) 263-4087, (416) 292-2361
Fax No. (416) 298-5887

Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA-CEIL
SILICA, CRYSTALLINE FREE	112945-52-5	10.0	N/E	N/E	N/E	N/E
N-beta-(aminoethyl)-gamma-aminopropyltrimethoxysilane	1760-24-3	1.0	N/E	N/E	N/E	N/E

Section 3 - Hazards Identification

Emergency Overview: May cause irritation to the respiratory tract.

Effects Of Overexposure - Eye Contact: May cause eye irritation.

Effects Of Overexposure - Skin Contact: May cause skin irritation.

Effects Of Overexposure - Inhalation: Inhalation may cause irritation to the respiratory tract (nose, mouth, mucous membranes).

Effects Of Overexposure - Ingestion: May be harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: Under normal use conditions, this product is not expected to cause adverse health effects.

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Ingestion, Eye Contact

Medical Conditions Prone to Aggravation by Exposure: If you have a condition that could be aggravated by exposure to dust or organic vapors, see a physician prior to use.

Section 4 - First Aid Measures

First Aid - Eye Contact: If material gets into eyes, flush with water immediately for 15 minutes. Consult a physician.

First Aid - Skin Contact: In case of contact, wash skin immediately with soap and water.

First Aid - Inhalation: If inhaled, remove to fresh air. Administer oxygen if necessary. Consult a physician if symptoms persist or exposure was severe.

First Aid - Ingestion: If swallowed do not induce vomiting. Seek immediate medical attention.

Section 5 - Fire Fighting Measures

Flash Point, F: N.D.
(No Flashpoint Method Specified)

Lower Explosive Limit, %: N.D.
Upper Explosive Limit, %: N.D.

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: None known.

Special Firefighting Procedures: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Dispose of material in accordance with all federal, state and local regulations. Use personal protective equipment as necessary.

Section 7 - Handling And Storage

Handling: Avoid breathing vapors or spray mist. Do not get in eyes, on skin, or on clothing. Keep container tightly closed when not in use. Wear personal protection equipment. Wash thoroughly after handling. Use only in accordance with Application instructions, container label and Product Data Sheet.

Storage: Protect from freezing. Keep container closed when not in use. Do not store with strong alkali or acids.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: General ventilation should be provided to maintain ambient concentrations below nuisance levels.

Respiratory Protection: Use only with ventilation to keep levels below exposure guidelines listed in Section 2. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NIOSH approved supplied air respirator. Follow all current OSHA requirements for respirator use. For silica containing coatings in a liquid state, and/or if no exposure limits are established in Section 2 above, supplied air respirators are generally not required.

Skin Protection: Recommend impervious gloves and clothing to avoid skin contact. If material penetrates to skin, change gloves and clothing. The use of protective creams may be beneficial to certain individuals. Protective creams should be applied before exposure.

Eye Protection: Recommend safety glasses with side shields or chemical goggles to avoid eye contact.

Other protective equipment: Eye wash and safety showers should be readily available.

Hygienic Practices: Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and allow hazardous materials to pass through. Check shoes carefully after soaking before reuse.

Section 9 - Physical And Chemical Properties

Boiling Range:	. - N/A	Vapor Density:	Negligible
Odor:	Mild	Odor Threshold:	
Appearance:	Smooth, thixotropic paste	Evaporation Rate:	N/A
Solubility in H2O:	No effect	Specific Gravity:	1.130
Freeze Point:	N/A	PH:	N/A
Vapor Pressure:	17 mmHg @ 20°C		
Physical State:	Liquid		

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: No Information.

Incompatibility: Keep away from strong oxidizing agents.

Hazardous Decomposition Products: None are known.

Hazardous Polymerization: Will not occur under normal conditions.

Stability: This product is stable under normal storage conditions.

Section 11 - Toxicological Information

Product LD50: N/D

Product LC50: N/D

Chemical Name	CAS Number	LD50	LC50
SILICA, CRYSTALLINE FREE	112945-52-5	>10000 Mg/Kg, Oral, Rat	0.139 mg/L/ 4h Rat, Inh
N-beta-(aminoethyl)-gamma-aminopropyltrimethoxysilane	1760-24-3	>2000 Mg/Kg .	NOT AVAILABLE .

Section 12 - Ecological Information

Ecological Information: No data

Section 13 - Disposal Information

Disposal Information: Dispose of in accordance with State, Local, and Federal Environmental regulations. Responsibility for proper waste disposal is with the owner of the waste.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Not Regulated	Packing Group:	N/A
DOT Technical Name:	N/A	Hazard Subclass:	N/A
DOT Hazard Class:	N/A	Resp. Guide Page:	N/A
DOT UN/NA Number:	N/A		

Section 15 - Regulatory Information

CERCLA - SARA HAZARD CATEGORY

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

SARA SECTION 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

None

TOXIC SUBSTANCES CONTROL ACT

All components of this product are listed on the TSCA inventory.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) Substances exist in this product

U.S. STATE REGULATIONS AS FOLLOWS:

NEW JERSEY RIGHT-TO-KNOW

The following materials are non-hazardous, but are among the top five components in this product.

<u>Chemical Name</u>	<u>CAS Number</u>
Silicone	NA
Silicone	TRADE SECRET
Calcium Carbonate	471-34-1
Methyl Oximino Silane	022984-54-9

PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product at greater than 3%.

<u>Chemical Name</u>	<u>CAS Number</u>
Silicone	NA
Silicone	TRADE SECRET
Calcium Carbonate	471-34-1
Methyl Oximino Silane	022984-54-9

CALIFORNIA PROPOSITION 65

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

<u>Chemical Name</u>	<u>CAS Number</u>
MICROCRYSTALLINE SILICA	14808-60-7

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards:

No California Proposition 65 Reproductive Toxins exist

INTERNATIONAL REGULATIONS AS FOLLOWS:

CANADIAN WHMIS

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: Class D, Division 2

Section 16 - Other Information

HMIS Ratings

Health: 2 Flammability: 0 Reactivity: 0 Personal Protection: X

VOLATILE ORGANIC COMPOUNDS, GR/LTR MIXED (UNTHINNED): 83

REASON FOR REVISION: Changed to 16 Section Format

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.



Material Safety Data Sheet

CHEMTREC Transportation
Emergency Phone: 800-424-9300

Pittsburgh Poison Control Center
Health Emergency No.:
412-681-6669

NOTE: The CHEMTREC Transportation
Emergency Phone is to be used only in the
event of chemical emergencies involving a spill,
leak, fire, exposure or accident involving
chemicals

Section 1 - Chemical Product / Company Information

Product Name: A/D FIREBARRIER Silicone SL
Revision Date: 03/03/2010
Identification Number: 03AD0500007
Supercedes : 10/14/2008
Product Use/Class: FOR INDUSTRIAL USE ONLY
Preparer: Technical Service Department
Manufacturer: A/D Fire Protection Systems Inc.
420 Tapscott Rd.
Scarborough, Ontario
M1B 1Y4
Tel. No.: (800) 263-4087, (416) 292-2361
Fax No.: (416) 298-5887

Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA-CEIL
SILICA, CRYSTALLINE FREE	112945-52-5	10.0	N/E	N/E	N/E	N/E

Section 3 - Hazards Identification

Emergency Overview: May cause irritation to the respiratory tract.

Effects Of Overexposure - Eye Contact: May cause eye irritation.

Effects Of Overexposure - Skin Contact: May cause skin irritation.

Effects Of Overexposure - Inhalation: Inhalation may cause irritation to the respiratory tract (nose, mouth, mucous membranes).

Effects Of Overexposure - Ingestion: May be harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: Under normal use conditions, this product is not expected to cause adverse health effects.

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Ingestion, Eye Contact

Medical Conditions Prone to Aggravation by Exposure: If you have a condition that could be aggravated by exposure to dust or organic vapors, see a physician prior to use.

Section 4 - First Aid Measures

First Aid - Eye Contact: If material gets into eyes, flush with water immediately for 15 minutes. Consult a physician.

First Aid - Skin Contact: In case of contact, wash skin immediately with soap and water.

First Aid - Inhalation: If inhaled, remove to fresh air. Administer oxygen if necessary. Consult a physician if symptoms persist or exposure was severe.

First Aid - Ingestion: If swallowed do not induce vomiting. Seek immediate medical attention.

Section 5 - Fire Fighting Measures

Flash Point, F: N.D.
(No Flashpoint Method Specified)

Lower Explosive Limit, %: N.D.
Upper Explosive Limit, %: N.D.

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: None known.

Special Firefighting Procedures: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Dispose of material in accordance with all federal, state and local regulations. Use personal protective equipment as necessary.

Section 7 - Handling And Storage

Handling: Avoid breathing vapors or spray mist. Do not get in eyes, on skin, or on clothing. Keep container tightly closed when not in use. Wear personal protection equipment. Wash thoroughly after handling. Use only in accordance with Application instructions, container label and Product Data Sheet.

Storage: Protect from freezing. Keep container closed when not in use. Do not store with strong alkali or acids.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: General ventilation should be provided to maintain ambient concentrations below nuisance levels.

Respiratory Protection: Use only with ventilation to keep levels below exposure guidelines listed in Section 2. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NIOSH approved supplied air respirator. Follow all current OSHA requirements for respirator use. For silica containing coatings in a liquid state, and/or if no exposure limits are established in Section 2 above, supplied air respirators are generally not required.

Skin Protection: Recommend impervious gloves and clothing to avoid skin contact. If material penetrates to skin, change gloves and clothing. The use of protective creams may be beneficial to certain individuals. Protective creams should be applied before exposure.

Eye Protection: Recommend safety glasses with side shields or chemical goggles to avoid eye contact.

Other protective equipment: Eye wash and safety showers should be readily available.

Hygienic Practices: Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and allow hazardous materials to pass through. Check shoes carefully after soaking before reuse.

Section 9 - Physical And Chemical Properties

Boiling Range:	N/A - N/A	Vapor Density:	<1
Odor:	Mild	Odor Threshold:	
Appearance:	Caulk: Red	Evaporation Rate:	<1
Solubility in H2O:	No effect	Specific Gravity:	1.265
Freeze Point:	32	PH:	N/A
Vapor Pressure:	17 mmHg @ 20°C		
Physical State:	Liquid		

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: No Information.

Incompatibility: Keep away from strong oxidizing agents.

Hazardous Decomposition Products: None are known.

Hazardous Polymerization: Will not occur under normal conditions.

Stability: This product is stable under normal storage conditions.

Section 11 - Toxicological Information

Product LD50: N/D

Product LC50: N/D

Chemical Name	CAS Number	LD50	LC50
SILICA, CRYSTALLINE FREE	112945-52-5	>10000 Mg/Kg, Oral, Rat	0.139 mg/L/ 4h Rat, Inh

Section 12 - Ecological Information

Ecological Information: No data

Section 13 - Disposal Information

Disposal Information: Dispose of in accordance with State, Local, and Federal Environmental regulations. Responsibility for proper waste disposal is with the owner of the waste.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Not Regulated	Packing Group:	N/A
DOT Technical Name:	N/A	Hazard Subclass:	N/A
DOT Hazard Class:	N/A	Resp. Guide Page:	N/A
DOT UN/NA Number:	N/A		

Section 15 - Regulatory Information

CERCLA - SARA HAZARD CATEGORY This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

SARA SECTION 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

None

TOXIC SUBSTANCES CONTROL ACT

All components of this product are listed on the TSCA inventory.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) Substances exist in this product

U.S. STATE REGULATIONS AS FOLLOWS:

NEW JERSEY RIGHT-TO-KNOW

The following materials are non-hazardous, but are among the top five components in this product.

<u>Chemical Name</u>	<u>CAS Number</u>
Silicone	NA
Silicone	TRADE SECRET
Calcium Carbonate	471-34-1
Methyl Oximino Silane	022984-54-9

PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product at greater than 3%.

<u>Chemical Name</u>	<u>CAS Number</u>
Silicone	NA
Silicone	TRADE SECRET
Calcium Carbonate	471-34-1
Methyl Oximino Silane	022984-54-9

CALIFORNIA PROPOSITION 65

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

<u>Chemical Name</u>	<u>CAS Number</u>
MICROCRYSTALLINE SILICA	14808-60-7

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards:

No California Proposition 65 Reproductive Toxins exist

INTERNATIONAL REGULATIONS AS FOLLOWS:

CANADIAN WHMIS

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: Class D, Division 2

Section 16 - Other Information

HMIS Ratings

Health: 2 Flammability: 0 Reactivity: 0 Personal Protection: X

VOLATILE ORGANIC COMPOUNDS, GR/LTR MIXED (UNTHINNED): 60

REASON FOR REVISION: Changed to 16 Section Format

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.

DOW CORNING

DOW CORNING CORPORATION

Material Safety Data Sheet

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DOW CORNING(R) 736 HEAT RESISTANT/SEALANT

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
 South Saginaw Road
 Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900

Customer Service: (989) 496-6000

Product Disposal Information: (989) 496-6315

CHEMTREC: (800) 424-9300

MSDS No.: 01890590

Revision Date: 2011/03/08

Generic Description: Silicone elastomer

Physical Form: Paste

Color: Red

Odor: Acetic acid odor

NFPA Profile: Health 1 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause mild irritation.

Skin: May cause mild irritation.

Inhalation: No significant effects expected from a single short-term exposure.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: No known applicable information.

Inhalation: No known applicable information.

Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

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The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
17689-77-9	1.0 - 5.0	Ethyltriacetoxysilane
4253-34-3	1.0 - 5.0	Methyltriacetoxysilane

The above components are hazardous as defined in 29 CFR 1910.1200.

4. FIRST AID MEASURES

Eye:	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes while holding the eyelid(s) open. Obtain medical attention.
Skin:	No health effects expected. If irritation does occur flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, obtain medical advice.
Inhalation:	If symptoms are experienced remove source of contamination or move victim to fresh air. If irritation persists, obtain medical advice.
Oral:	If irritation or discomfort occur, obtain medical advice.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	Not applicable.
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO ₂), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

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Material Safety Data Sheet

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DOW CORNING(R) 736 HEAT RESISTANT/SEALANT

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up: Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See Section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Product evolves acetic acid (HOAc) when exposed to water or humid air. Provide ventilation during use to control HOAc within exposure guidelines or use respiratory protection. Avoid eye contact.

Use reasonable care and store away from oxidizing materials. Keep container closed and store away from water or moisture. This material in its finely divided form presents an explosion hazard. Follow NFPA 654 (for chemical dusts) or 484 (for metal dusts) as appropriate for managing dust hazards to minimize secondary explosion potential.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
17689-77-9	Ethyltriacetoxysilane	See acetic acid comments.
4253-34-3	Methyltriacetoxysilane	See acetic acid comments.

Acetic acid is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL: TWA 10 ppm and ACGIH TLV: TWA 10 ppm, STEL 15 ppm.

Engineering Controls

Local Ventilation: None should be needed.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

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Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Suitable Gloves:	Handle in accordance with good industrial hygiene and safety practices.
Inhalation:	No respiratory protection should be needed.
Suitable Respirator:	None should be needed.

Personal Protective Equipment for Spills

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Inhalation/Suitable Respirator:	No respiratory protection should be needed.
Precautionary Measures:	Avoid eye contact. Use reasonable care.
Comments:	Product evolves acetic acid (HOAc) when exposed to water or humid air. Provide ventilation during use to control HOAc within exposure guidelines or use respiratory protection.

When heated to temperatures above 150°C (300°F) in the presence of air, product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard and a known skin and respiratory sensitizer. Vapors irritate eyes, nose, and throat. Safe handling conditions may be maintained by keeping vapor conditions within the OSHA permissible exposure limit for formaldehyde.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Paste
Color:	Red
Odor:	Acetic acid odor
Specific Gravity @ 25°C:	1.04
Viscosity:	Not determined.
Freezing/Melting Point:	Not determined.
Boiling Point:	Not determined.
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.

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DOW CORNING(R) 736 HEAT RESISTANT/SEALANT

Solubility in Water: Not determined.
pH: Not determined.
Volatile Content: Not determined.
Flash Point: Not applicable.
Autoignition Temperature: Not determined.
Flammability Limits in Air: Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction. Water, moisture, or humid air can cause hazardous vapors to form as described in Section 8.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde. Metal oxides.

11. TOXICOLOGICAL INFORMATION**Special Hazard Information on Components**

No known applicable information.

12. ECOLOGICAL INFORMATION**Environmental Fate and Distribution**

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

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DOW CORNING(R) 736 HEAT RESISTANT/SEALANT

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal. Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):

None.

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DOW CORNING(R) 736 HEAT RESISTANT/SEALANT

Section 304 CERCLA Hazardous Substances (40 CFR 302):

None.

Section 311/312 Hazard Class (40 CFR 370):

Acute: No
 Chronic: No
 Fire: No
 Pressure: No
 Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):

None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information**California**

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
7631-86-9	7.0 - 13.0	Silica, amorphous

New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
70131-67-8	70.0 - 90.0	Dimethyl siloxane, hydroxy-terminated
7631-86-9	7.0 - 13.0	Silica, amorphous
63148-62-9	<=2.3	Polydimethylsiloxane
17689-77-9	1.0 - 5.0	Ethyltriacetoxysilane
4253-34-3	1.0 - 5.0	Methyltriacetoxysilane

Pennsylvania

**DOW CORNING CORPORATION
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DOW CORNING(R) 736 HEAT RESISTANT/SEALANT

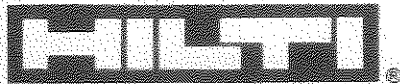
<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
70131-67-8	70.0 - 90.0	Dimethyl siloxane, hydroxy-terminated
7631-86-9	7.0 - 13.0	Silica, amorphous

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

MSDS No.: 283
Revision No.: 002
Revision Date: 08/17/04
Page: 1 of 2

MATERIAL SAFETY DATA SHEET

Product name: CP 604 Self-Leveling Firestop Sealant
Description: A self-leveling flexible sealant for firestopping construction joints and metal pipes
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	TLV:	PEL:	STEL:
Polydimethylsiloxane diol	70131-67-8	NE	NE	NE
Calcium carbonate	01317-65-3	NA (10 mg/m ³)	NA (15 mg/m ³)	NE
Polydimethylsiloxane	63148-62-9	NE	NE	NE
Methyl tris(methyl ethyl ketoxime) silane	22984-54-9	NE	NE	NE
Alkyl tris(methyl ethyl ketoxime) silane	02224-33-1	NE	NE	NE
Fumed silica	68611-44-9	NA (10 mg/m ³)	NA (15 mg/m ³)	NE
Titanium dioxide	13463-67-7	NA (10 mg/m ³)	NA (15 mg/m ³)	NE
Ferrous oxide	01309-37-1	NE	NE	NE

Abbreviations: PEL = OSHA Permissible Exposure Limit. TLV = ACGIH Threshold Limit Value. STEL = Short Term Exposure Limit. NE = None Established. NA = Not Applicable.

PHYSICAL DATA

Appearance:	Gray paste	Odor:	Mild
Vapor Density (air = 1):	Not determined	Vapor Pressure:	Not determined
Boiling Point:	Not determined	VOC Content:	53.0 g/L
Evaporation Rate:	Not applicable	Solubility in Water:	Not easily mixed
Specific Gravity:	1.35	pH:	Not determined

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable	Flammable Limits:	Not applicable
Extinguishing Media:	As appropriate for surrounding fire (e.g. Water, CO ₂ , Dry Chemical, Foam).		
Special Fire Fighting Procedures:	None known. Use a self-contained breathing apparatus when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	None known. Thermal decomposition products can be formed; e.g. CO and CO ₂ .		

REACTIVITY DATA

Stability:	Stable.	Hazardous Polymerization:	Will not occur.
Incompatibility:	Reaction with air and moisture during the curing process can release trace amounts of methyl ethyl ketoxime (MEKO).		
Decomposition Products:	Thermal decomposition can yield CO and CO ₂ .		
Conditions to Avoid:	Temperature extremes will shorten product shelf life; i.e. below freezing / above 100°F. See recommended storage conditions below.		

HEALTH HAZARD DATA

Known Hazards:	Possible skin sensitization.
Signs and Symptoms of Exposure:	Eyes: No effects expected. Skin: Prolonged and repeated contact can cause skin sensitization with some individuals (e.g. rash, itching, reddening). Inhalation: No ill effects expected. Ingestion: Effects of ingestion have not been determined. No ill effects expected. NOTE: Reaction with air and moisture during the curing process can release trace amounts of methyl ethyl ketoxime (MEKO). MEKO can be irritating to the eyes, skin and respiratory tract. The body easily metabolizes MEKO; therefore, no lasting or adverse effects are expected.
Routes of Exposure:	Dermal.
Carcinogenicity:	No ingredients are classified as a carcinogen by IARC, NTP or OSHA.
Medical Conditions Aggravated by Exposure:	None known.

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Flush with plenty of water. Call a physician if any effects occur.
Skin:	Wash with soap and water. Launder contaminated clothing before reuse.
Inhalation:	No ill effects expected. Should discomfort occur, move to fresh air.
Ingestion:	Seek medical attention. Do not induce vomiting unless directed to by a physician. <u>Never</u> give anything by mouth to an unconscious person.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure. If sensitization occurs, future contact with the material should be avoided.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	As appropriate for the work area or other work being done.
Skin Protection:	Recommended. Cloth gloves are suitable.
Respiratory Protection:	None normally required.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Avoid prolonged or repeated contact with the skin. Use with adequate ventilation. Always wash thoroughly after handling chemical products. Follow label/use instructions. Store in a cool dry area preferably between 40 - 77° F. For industrial use only. Keep out of reach of children.
Spill Procedures:	Wear appropriate personal protective equipment. Allow to cure, scrape up and place in a salvage container for proper disposal. See disposal guidelines below.

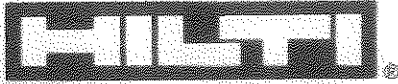
REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard, 29 CFR 1910.1200.
HMIS Codes:	Health 1, Flammability 0, Reactivity 0, PPE B
DOT Shipping Name:	Not regulated.
IATA / ICAO Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product does not contain any ingredients which are subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste
Waste Disposal Methods:	No known restrictions. Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x6704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (Other countries)		

The information and recommendations contained herein are based upon data believed to be correct, however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



MSDS No.: 320
Revision No.: 002
Revision Date: 4/9/08
Page: 1 of 2

MATERIAL SAFETY DATA SHEET

Product name: CP 617 Firestop Putty Pad, CP 618 Firestop Putty Stick, CP 619T Firestop Putty Roll
Description: Firestopping putty
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	TLV:	PEL:	STEL:
Calcium carbonate	1317-85-3	NE	5 mg/m ³ (R)	NE
Talc	14807-96-6	2 mg/m ³	20 mppcf	NE
Silica	14808-60-7	0.025 mg/m ³ (R)	30 mg/m ³ (R) %SiO ₂ + 5	NE
Boron oxide	1303-86-2	10 mg/m ³	15 mg/m ³ (T)	NE
Iron oxide	1309-37-1	5 mg/m ³ (R)	10 mg/m ³ (f)	NE

Abbreviations: PEL = OSHA Permissible Exposure Limit. TLV = ACGIH Threshold Limit Value. STEL = Short Term Exposure Limit. NE = None Established. R = Respirable dust. mppcf = million particles per cubic foot. T = Total dust. F = as fume.

PHYSICAL DATA

Appearance:	Red colored putty	Odor:	Negligible
Vapor Density: (air = 1)	Not applicable	Vapor Pressure:	Not applicable
Boiling Point:	Not applicable	VOC Content:	Not determined
Evaporation Rate:	Not applicable	Solubility in Water:	Slightly soluble
Specific Gravity:	1.45	pH:	Not determined

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable	Flammable Limits:	Not applicable
Extinguishing Media:	Water, CO ₂ , Dry Chemical, Foam		
Special Fire Fighting Procedures:	A NIOSH-approved self-contained breathing apparatus (SCBA) should be worn when fighting fires involving chemical products.		
Unusual Fire and Explosion Hazards:	Fire conditions will activate product causing it to intumesce.		

REACTIVITY DATA

Stability:	Stable.
Hazardous Polymerization:	Will not occur.
Incompatibility:	None known.
Decomposition Products:	Thermal decomposition can yield CO and CO ₂ .
Conditions to Avoid:	Avoid temperature extremes that could shorten the shelf-life or affect product performance (See handling and storage requirements).

HEALTH HAZARD DATA

Known Hazards:	Irritation of the eyes and skin is possible.
Signs and Symptoms of Exposure:	Eyes - Can cause irritation and watering but injury is unlikely. Skin - May cause irritation. Inhalation - No effects expected. Not considered to be a route of exposure. Ingestion - Not known.
Routes of Exposure:	Contact
Carcinogenicity:	IARC classifies crystalline silica as a Group I carcinogen based upon evidence among workers in industries where there has been long term and chronic exposure (via inhalation) to silica dust; e.g. mining, quarry, stone crushing, refractory brick and pottery. This product does not pose a dust hazard; therefore, this classification is not relevant.

Medical Conditions Aggravated by Exposure: None known.

EMERGENCY AND FIRST AID PROCEDURES

Eyes: Flush with plenty of water. Contact a physician if symptoms occur.
Skin: Wash with soap and water. Contact a physician if symptoms occur.
Inhalation: No effects expected.
Ingestion: Do not induce vomiting unless directed by a physician. Contact a physician immediately.
Other: Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation: General (natural or mechanically induced fresh air movements).
Eye Protection: Safety glasses with side shields.
Skin Protection: Impermeable gloves recommended.
Respiratory Protection: Not required.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions: Store in a cool, dry area preferably between 41° and 77° F. For industrial use only. Keep out of reach of children. Avoid prolonged or repeated contact with the skin. Do not rub the eyes after contact with the hands. Practice good hygiene; i.e. wash after using and before eating or smoking.
Spill Procedures: No special requirements.

REGULATORY INFORMATION

Hazard Communication: This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard, 29 CFR 1910.1200.
HMIS Codes: Health 1, Flammability 0, Reactivity 0, PPE B
DOT Shipping Name: Not regulated.
IATA / ICAO Shipping Name: Not regulated.
TSCA Inventory Status: Chemical components listed on TSCA inventory.
SARA Title III, Section 313: This product does not contain any ingredients that are subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s): Not regulated by EPA as a hazardous waste
Waste Disposal Methods: Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service: 1 800 879 8000 **Technical Service:** 1 800 879 8000
Health / Safety: 1 800 879 8000 Jerry Metcalf (x6704)
Emergency # (Chem-Trec): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.

MSDS No.: 272
Revision No.: 007
Revision Date: 09/28/07
Page: 1 of 2

MATERIAL SAFETY DATA SHEET

Product name: CP 620 Fire Foam
Description: Two-component polyurethane fire stopping foam in a plastic tube / cartridge
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (Other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	TLV:	PEL:	STEL:
Part A:				
Amino, polyester and propoxylated polyols	Mixture	NE	NE	NE
Polyester polyol	025038-59-9	NE	NE	NE
Graphite, expanded	012777-87-6	NE	NE	NE
Ammonium polyphosphate	068333-79-9	NE	NE	NE
Brominated polyester polyol	Mixture	NE	NE	NE
Zinc borate	1332-07-6	NE	NE	NE
Catalyst	083016-70-0	NE	NE	NE
Pigment	001309-37-1	NA (5 mg/m ³ *)	NA (10 mg/m ³ *)	NE
Part B:				
Polymeric diphenylmethane diisocyanate	009016-87-9	NE	NE	NE
Tris(2-chloroisopropyl) phosphate	013674-84-5	NE	NE	NE

Abbreviations: NE = None Established. NA = Not Applicable. * Only relevant for dusts and fumes.

PHYSICAL DATA

Appearance:	Red liquid / foam	Odor:	Negligible
Vapor Density: (air = 1)	Not determined	Vapor Pressure:	Not determined
Boiling Point:	Not determined	VOC Content:	15.0 g/L
Evaporation Rate:	Not applicable	Solubility in Water:	Insoluble
Specific Gravity:	1.2 - 1.4	pH:	Not determined

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable	Flammable Limits:	Not applicable
Extinguishing Media:	Carbon Dioxide, Dry Chemical, Foam		
Special Fire Fighting Procedures:	Isocyanates are not compatible with water. Reaction with water liberates CO ₂ , which can cause the tubes / cartridges to leak.		
Unusual Fire and Explosion Hazards:	Thermal decomposition products can be released. See below.		

REACTIVITY DATA

Stability:	Stable.	Hazardous Polymerization:	Will not occur.
Incompatibility:	Alcohols, strong bases, alkali metal compounds. Reacts with water (nonviolently).		
Decomposition Products:	Thermal decomposition can yield CO, CO ₂ , HCl, HBr, HCN, and NO _x .		
Conditions to Avoid:	Temperature extremes will shorten product shelf life; i.e. below freezing / above 100° F. Exposure to water and high humidity will cause the product to polymerize (cure).		

HEALTH HAZARD DATA

Known Hazards:	Acute: Eye, skin, and respiratory irritation. Chronic: Sensitization
Signs and Symptoms of Exposure:	Eyes: Can adhere to cornea. Skin: Can adhere to the skin. Can cause irritation and possibly sensitization; e.g. itching, swelling, rashes, etc. Inhalation: Vapor generated when heated to temperatures > 100° F can cause irritation of the breathing tract. Some individuals can develop an allergic (asthmatic-like) response. Ingestion: Effects of ingestion have not been determined. Not a likely route of exposure.
Routes of Exposure:	Dermal, Inhalation.
Carcinogenicity:	No ingredients are classified as a carcinogen by IARC, NTP or OSHA.
Medical Conditions Aggravated by Exposure:	Eye, skin, and respiratory conditions.

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Immediately flush with large amounts of clean water and seek medical attention.
Skin:	Wipe off skin immediately with soft cloth and then remove residue with vegetable oil. Cured foam can only be removed mechanically.
Inhalation:	Should symptoms occur, immediately move victim to fresh air. Call a physician if symptoms persist. Those individuals who develop an allergic reaction should avoid future use of this product.
Ingestion:	Seek medical attention. Do not induce vomiting unless directed to by a physician.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure. If sensitization occurs, future use / contact should be avoided.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Goggles recommended; safety glasses with side shields as a minimum.
Skin Protection:	Cotton gloves are suitable.
Respiratory Protection:	Not normally required. If MDI concentrations exceed recommended levels, a supplied air respirator is required.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Avoid contact with skin, eyes, and respiratory system. Material will adhere to the eyes and skin. Use with adequate ventilation. Store in a cool dry place. Do not store in direct sunlight. Keep from freezing. Store between 50° and 90° F. Always wash thoroughly after handling chemical products. For industrial use only. Keep out of reach of children. Follow label and use instructions.
Spill Procedures:	Wear appropriate personal protective equipment. CP 620 will polymerize (cure) upon contact with air / moisture. Allow product to cure, then remove for disposal. See disposal guidelines below.

REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard, 29 CFR 1910.1200.
HMIS Codes:	Health 2, Flammability 0, Reactivity 1, PPE B (Gloves, Glasses)
DOT Shipping Name:	Not regulated
IATA Shipping Name:	Not regulated
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	Part A contains 3 - 4% zinc borate (CAS 1332-07-6) and Part B contains 88 - 92% polymeric MDI (CAS 9016-87-9) which are subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	D003 water reactive (for uncured product) / not regulated if product has been dispensed and has cured
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x6704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 703 527 3887 (Other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



MSDS No.: 259
Revision No.: 011
Revision Date: 02/29/12
Page: 1 of 2

MATERIAL SAFETY DATA SHEET

Product name: FS-ONE High Performance Intumescent Firestop Sealant
Description: One-part acrylic-based sealant
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	PEL:	TLV:	STEL:
Polyacrylate dispersion	Mixture	NE	NE	NE
Calcium carbonate	001317-65-3	5 mg/m ³ (R)	NE	NE
Zinc borate	138265-88-0	NE	NE	NE
Talc	014807-96-6	20 mppcf	2 mg/m ³ (R)	NE
Ethylene glycol	000107-21-1	NE	NE	C:100 mg/m ³ (A)
Iron oxide	001309-37-1	10 mg/m ³ (F)	5 mg/m ³ (R)	NE

Abbreviations: PEL = OSHA Permissible Exposure Limit. TLV = ACGIH Threshold Limit Value. C = Ceiling. STEL = Short Term Exposure Limit. NE = None Established. NA = Not Applicable. (T) indicates "as total dust". (R) indicates "as respirable fraction". (A) indicates "as an aerosol". mppcf = million particles per cubic foot. F = Fume

PHYSICAL DATA

Appearance:	Red paste.	Odor:	Odorless.
Vapor Density: (air = 1)	Not determined.	Vapor Pressure:	23mbar @ 20C / 68F
Boiling Point:	Not applicable.	VOC Content:	75.0 g/L.
Evaporation Rate:	Not applicable.	Solubility in Water:	Soluble.
Specific Gravity:	1.5	pH:	Not determined.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Non-flammable.	Flammable Limits:	Not applicable.
Extinguishing Media:	Not applicable. Use extinguishing media as appropriate for surrounding fire.		
Special Fire Fighting Procedures:	None known. Use a self-contained breathing apparatus when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	None known. Thermal decomposition products can be formed such as oxides of carbon, sulfur and phosphorous.		

REACTIVITY DATA

Stability:	Stable.	Hazardous Polymerization:	Will not occur.
Incompatibility:	Strong acids, peroxides, and oxidizing agents.		
Decomposition Products:	Thermal decomposition can yield CO and CO ₂ .		
Conditions to Avoid:	None known.		

HEALTH HAZARD DATA

Known Hazards:	None known.
Signs and Symptoms of Exposure:	Possibly irritating upon contact with the eyes or upon repeated contact with the skin.
Medical Conditions Aggravated by Exposure:	Eye and skin conditions.
Routes of Exposure:	Dermal.
Carcinogenicity:	No ingredients are classified as carcinogens.

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Immediately flush with plenty of water. Contact a physician if symptoms occur.
Skin:	Immediately wipe off material and wash with soap and water. Contact a physician if symptoms occur.
Inhalation:	Move victim to fresh air if discomfort develops. Contact a physician if symptoms occur, persist.
Ingestion:	Seek medical attention. Do not induce vomiting unless directed by a physician.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Safety glasses with side shields.
Skin Protection:	Impermeable gloves. Other protective clothing as required to prevent skin contact.
Respiratory Protection:	None normally required. Where ventilation is inadequate to control vapors, use a NIOSH-approved respirator with organic vapor cartridges. Never enter a confined space without an appropriate air-supplied respirator.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool, dry area preferably between 40° and 77° F. Keep from freezing. Do not store in direct sunlight. Avoid contact with the eyes or skin. Practice good hygiene; i.e. always wash thoroughly after handling and before eating or smoking. For industrial use only. Keep out of reach of children. Follow label/use instructions.
Spill Procedures:	Immediately wipe away spilled material before it hardens. Place in a container for proper disposal in accordance with all applicable local, state, or federal requirements.

REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
HMIS Codes:	Health 1, Flammability 0, Reactivity 0, PPE B
DOT Shipping Name:	Not regulated.
IATA / ICAO Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product contains < 3% ethylene glycol (CAS 107-21-1) and < 15% zinc borate (re: zinc compounds) which are subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste.
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x71003704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.

MATERIAL SAFETY DATA SHEET

MSDS 0169

 =====
 Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

	HMIS CODES	
PRODUCT NAME	Health	1
Metacaulk 1000	Flammability	0
	Reactivity	0
PRODUCT CODES	PPI	B
66640, 66242, 66302, 66303, 66305, 66307, 66309, 66312		
CHEMICAL FAMILY		
Organic/Inorganic		
USE		
Firestopping Sealant		
MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.	
The RectorSeal Corporation	Chemtrec 24 Hours	
2601 Spenwick Drive	(800)424-9300 USA	
Houston, Texas 77055 USA	001-527-3887 International	
DATE OF VALIDATION	TECHNICAL SERVICE TELEPHONE NO.	
May 22, 2012	(800)231-3345 or (713)263-8001	
DATE OF PREPARATION		
May 22, 2012		

 =====
 Section 2 -- HAZARDS IDENTIFICATION

GHS CLASSIFICATION

PHYSICAL HAZARDS: None

HEALTH HAZARDS

Acute Toxicity:

Oral: Not Classified

Dermal: Not Classified

Inhalation: Not Classified

Skin Corrosion/Irritation: Not Classified

Serious Eye Damage/Eye Irritation: Not Classified

Respiratory or Skin Sensitization: Not Classified

Germ Cell Mutagenicity: Not Classified

Carcinogenicity: Not Classified

Reproductive Toxicology: Not Classified

Target Organ Systemic Toxicity - Single Exposure: Not Classified

Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment: Not Classified

Acute aquatic toxicity: Not Classified

Chronic aquatic toxicity: Not Classified

Bioaccumulation potential: Not Classified

Rapid degradability: Not Classified

GHS Label elements, including precautionary statements

Pictogram: None

Signal Word: None

Hazard Statements: None

Precautionary Statements:

P102 - Keep out of reach of children.
P264 - Wash hands thoroughly after handling.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

LABELING SYMBOLS: None

RISK R-PHRASES: None

SAFETY S-PHRASES:

S2 : Keep out of the reach of children.

SUMMARY OF ACUTE HAZARDS

May cause skin irritation.

ROUTE OF EXPOSURE, SIGNS AND SYMPTOMS

INHALATION

Not a respiratory irritant.

EYE CONTACT

Contact may cause eye irritation.

SKIN CONTACT

Contact may cause skin irritation.

INGESTION

Possible irritation to mucous membranes of the mouth, throat, and stomach.

SUMMARY OF CHRONIC HAZARDS

None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Persons with pre-existing skin conditions or chemical allergies may be more susceptible to contact effects of the cured elastomer.

=====
Section 3 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS
None as defined by OSHA Hazard Communication Standard 29 CFR 1910.1200.			

=====
Section 4 -- FIRST AID MEASURES

If INHALED: Not a respiratory irritant.
If on SKIN: Wash with soap and water. If irritation occurs, seek medical attention.
If in EYES: Immediately flush with large amounts of water. If irritation occurs, seek medical attention.
If SWALLOWED: If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

=====
Section 5 -- FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Foam, dry chemical, carbon dioxide or water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus (SCBA) and other protective clothing. Hazardous decomposition products possible (see Section 10).

UNUSUAL FIRE AND EXPLOSION HAZARDS: Heat may build up and rupture closed containers.

=====
Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wipe up spills to prevent footing hazard. Avoid flushing into sewers, drains, waterways and soil. Wear protective clothing during clean up.

=====
Section 7 -- HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep container closed and upright when not in use. To prevent freezing and possible rupture of container, do not store below 35 F.

OTHER PRECAUTIONS: Avoid prolonged or repeated contact with skin or clothing. Empty containers may contain residues and vapors; treat as if full and observe all product precautions. Do not reuse empty containers. KEEP OUT OF REACH OF CHILDREN.

=====
Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION (SPECIFY TYPE): None required.

VENTILATION - LOCAL EXHAUST: N/A

SPECIAL: N/A

MECHANICAL (GENERAL): N/A

OTHER: N/A

PROTECTIVE GLOVES: None required.

EYE PROTECTION: None required.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: None required.

WORK/HYGIENIC PRACTICES: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

=====
Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 212 F (100 C) @ 760mm Hg

SPECIFIC GRAVITY (H2O = 1): 1.25

VAPOR PRESSURE (mm Hg): 17 @ 68 F (20 C)

MELTING POINT: N/A

VAPOR DENSITY (AIR = 1): N/A

EVAPORATION RATE (ETHYL ACETATE = 1): >1

APPEARANCE/ODOR: Red Paste/Mild Odor

SOLUBILITY IN WATER: Soluble

VOLATILE ORGANIC COMPOUNDS (VOC) Content
(Theoretical Percentage By Weight): <1% or <10 g/L

FLASH POINT: None

LOWER EXPLOSION LIMIT: None

UPPER EXPLOSION LIMIT: None

=====
Section 10 -- STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: None

INCOMPATIBILITY (MATERIALS TO AVOID): None known.

HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO2 and fragmented hydrocarbons.

HAZARDOUS POLYMERIZATION: Will not occur.

=====
Section 11 -- TOXICOLOGY INFORMATION

CHRONIC HEALTH HAZARDS

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

TOXICOLOGY DATA

Ingredient Name

None

=====
Section 12 -- Ecological Information

ECOLOGICAL DATA

Ingredient Name

None

Food Chain Concentration Potential	N/A
WATERFOWL TOXICITY	N/A
BOD	N/A
AQUATIC TOXICITY	N/A

=====
Section 13 -- DISPOSAL CONSIDERATIONS

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with Federal, State, and Local regulation regarding pollution.

=====
Section 14 -- TRANSPORTATION INFORMATION

DOT:	Non-Regulated
OCEAN (IMDG):	Non-Regulated
AIR (IATA):	Non-Regulated
WHMIS (CANADA):	Non-Regulated

=====
Section 15 -- REGULATORY INFORMATION

REGULATORY DATA

Ingredient Name

None

SARA 313	N/A
TSCA Inventory	All components listed
CERCLA RQ	N/A
RCRA Code	N/A

=====
Section 16 -- OTHER INFORMATION

LABELING SYMBOLS: None

RISK R-PHRASES: None

SAFETY S-PHRASES:

S2 : Keep out of the reach of children.

This document is prepared pursuant to 91/155/EEC ISO 11014-1. The information herein is given in good faith, but no warranty, expressed or implied is made. Consult RectorSeal for further information: (713) 263-8001



MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards

PART I What is the material and what do I need to know in an emergency?

1. PRODUCT IDENTIFICATION

<u>TRADE NAME (AS LABELED):</u>	CAULK, Type CLK (n/s or s/l)
<u>CHEMICAL NAME/CLASS:</u>	Not Applicable
<u>SYNONYMS:</u>	None
<u>PRODUCT USE:</u>	Firestop Sealant
<u>SUPPLIER / MANUFACTURER'S NAME:</u>	Nelson EGS
<u>ADDRESS:</u>	9810 E. 42 nd St. Suite 102 Tulsa, Oklahoma 74146-3636
<u>CHEMTREC EMERGENCY NO.:</u>	1-800-424-9300 (United States)
<u>BUSINESS PHONE:</u>	(918) 627-5530/(800) 331-7325
<u>REVISION DATE:</u>	April, 2011

2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	% w/w	EXPOSURE LIMITS IN AIR					OTHER mg/m ³
			ACGIH- TLV		OSHA- PEL		IDLH mg/m ³	
			TWA mg/m ³	STEL mg/m ³	TWA mg/m ³	STEL mg/m ³		
Methyl Oximino Silane	22984-54-9	3-6	NE	NE	NE	NE	NE	
Methyl Ethyl Ketoxime a component of <1% in Methyl Oximino Silane.	96-29-7	<.006	NE	NE	NE	NE	NE	DFG MAKs: Danger of cutaneous absorption. Danger of sensitization of the skin. CARCINOGENICITY: MAK-2
Iron Oxide The following exposure limits are for Iron oxide dust and fume, as Fe	1309-37-1	1-2.5	5, A4 (Particulate matter containing no asbestos and <1% crystalline silica)	NE	10	NE	2500	DFG MAKs: TWA: 1.5 (measured as respirable fraction of aerosol) CARCINOGENICITY: IARC-3, TLV-A4
Other components which are non- hazardous or present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).		Balance	None of the other components contribute significant additional hazards at the concentrations present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards and Canadian Workplace Hazardous Materials Identification System Standards (CPR 4).					

NE = Not Established

See Section 16 for Definitions of Terms Used

NOTE (1): ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-1998 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product is a red paste with an ether-like odor. The chief health hazard associated with overexposure would be the potential to slightly irritate the eyes, skin, nose, and other tissues that come in contact with this product or in the event that particulates are generated from the product. This product is not flammable or reactive. Thermal decomposition of this product produces irritating vapors and toxic gases (e.g., carbon oxides, formaldehyde, and silicone oxide). Emergency responders must wear proper personal protective equipment for the releases to which they are responding.

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: Under normal circumstances of use, this product should not present significant health hazards. In event of thermal decomposition of the product or if particulates are generated, the most significant routes of occupational overexposure would be via inhalation and contact with skin. The symptoms of overexposure to this product, via route of entry, are as follows:

INHALATION: Breathing airborne particulates, if generated during use of this product this product may irritate the nose, throat, or respiratory system. Symptoms of such exposure could include coughing and sneezing. Symptoms are generally alleviated when exposure ends.

CONTACT WITH SKIN or EYES: Eye contact should not normally present a significant health hazard. The product can form an oil film on the eyeball which may cause a temporary harmless and reversible clouding of the vision. In event of the generation of particulates, stinging, tearing, and redness from mechanical irritation could result. Skin contact with this product is not expected to present significant health hazards, however due to the presence of Ethyl Methyl Ketoxime in this product, a hazard of skin sensitization exists. Susceptible individuals may experience allergic respiratory reaction after subsequent exposure to very small amounts of the product. Symptoms may include rash, welts and itching skin.

SKIN ABSORPTION: Skin absorption is not anticipated to be a significant route of overexposure for any component of this product.

INGESTION: Ingestion of this product is unlikely.

INJECTION: Injection of this product is unlikely.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms.

ACUTE: The most likely symptom of acute overexposure would be slight to moderate irritation of contaminated skin or eyes after contact with particulates or fumes generated from thermal decomposition of this product.

CHRONIC: Due to the presence of ethyl methyl Ketoxime skin sensitization may occur in susceptible individuals and result in allergic reactions. Some evidence exists that components of this product are suspect carcinogens, based on animal data. See Section 11 (Toxicological Information) for additional data.

TARGET ORGANS: ACUTE: Skin, eyes. CHRONIC: Skin.




HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH	(BLUE)	2
--------	--------	---

FLAMMABILITY	(RED)	0
--------------	-------	---

REACTIVITY	(YELLOW)	0
------------	----------	---

PROTECTIVE EQUIPMENT	B
----------------------	---

EYES	RESPIRATORY	HANDS	BODY
	SEE SECTION 8		

For routine applications.

See Section 16 for Definition of Ratings

PART II What should I do if a hazardous situation occurs?

4. FIRST-AID MEASURES

Contaminated individuals must seek medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take a copy of label and MSDS to physician or health professional with the contaminated individual.

SKIN EXPOSURE: Treat victim and seek medical attention if adverse reaction occurs.

EYE EXPOSURE: If fumes or particulates generated from the product contaminate the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have the contaminated individual "roll" eyes. The recommended minimum flushing time is 15 minutes. Seek medical attention if any adverse effect occurs.

INHALATION: If fumes or particulates generated from the product are inhaled, remove victim to fresh air. If adverse effect occurs after removal to fresh air, seek medical attention.

INGESTION: Not applicable.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Preexisting dermatitis, and other skin disorders can be aggravated by exposure to this product.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): Not applicable.

Upper (UEL): Not applicable.

FIRE EXTINGUISHING MATERIALS: Select fire extinguishing media appropriate for the surrounding area.

Water Spray: YES

Foam: YES

Halon: YES

Carbon Dioxide: YES

Dry Chemical: YES

Other: Any "ABC" Class.

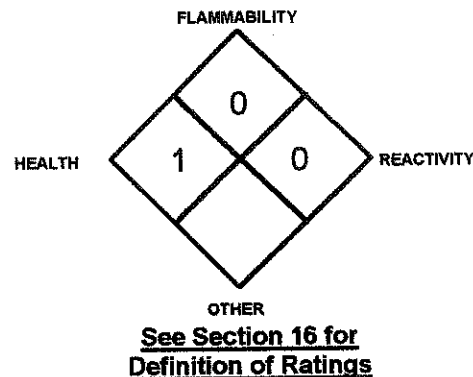
UNUSUAL FIRE AND EXPLOSION HAZARDS: This product is not combustible and does not contribute to the intensity of a fire. When involved in a fire, this material may decompose and produce irritating vapors, acrid smoke, and toxic gases (e.g., carbon oxides, formaldehydes and silicone oxide).

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Not sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move fire-exposed containers if it can be done without risk to firefighters. If possible, firefighters should control runoff water to prevent environmental contamination. Rinse contaminated equipment with soapy water before returning such equipment to service.

NFPA RATING



6. ACCIDENTAL RELEASE MEASURES

RELEASE RESPONSE: Due to the nature of this product, no special accidental release measures are normally required. Uncontrolled releases involving other materials released near this product should be responded to by appropriately trained personnel using pre-planned procedures.

PART III How can I prevent hazardous situations from occurring?

7. HANDLING and STORAGE

WORK AND HYGIENE PRACTICES: If during the use of this product, vapors are generated during heating, avoid breathing the vapors or skin or eye contact with the vapors.

STORAGE AND HANDLING PRACTICES: Store this product in a cool, dry location, away from sources of intense heat. Store away from incompatible materials (see Section 10, Stability and Reactivity).

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: No special ventilation and engineering controls are required for use of this product.

RESPIRATORY PROTECTION: None normally required for routine use of this product. Airborne contaminant concentrations must be maintained below guidelines listed in Section 2 (Composition and Information on Ingredients). If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations, or the Canadian CSA Standard Z94.4-93. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

EYE PROTECTION: No special eye protection is required for use of this product. Wear safety glasses or goggles if during use of this product operations may produce flying debris or particulates.

HAND PROTECTION: Wear Neoprene Rubber gloves for routine industrial use.

BODY PROTECTION: Use body protection appropriate for task.

9. PHYSICAL and CHEMICAL PROPERTIES

RELATIVE VAPOR DENSITY (air = 1): Not applicable.

SPECIFIC GRAVITY (water = 1): 1.17 @ 68 °F

SOLUBILITY IN WATER: Not soluble.

VAPOR PRESSURE, mm Hg @ 20°C: Not applicable.

pH: Not applicable.

EVAPORATION RATE (n-BuAc = 1): Not applicable.

MELTING/FREEZING POINT: >175°C (347°F)

BOILING POINT: >500°C (932°F).

% VOLATILES (calculated): "CLK" N/S: 57.8 g/L

"CLK" S/L: 50.0 g/L

9. PHYSICAL and CHEMICAL PROPERTIES (Continued)

PARTITION COEFFICIENT (n-octanol/water): Not applicable. ODOR THRESHOLD: Not established.
APPEARANCE, ODOR and COLOR: This is a brick red putty like product, with a mild ether-like odor.
HOW TO DETECT THIS SUBSTANCE (warning properties): The appearance may act as a distinguishing characteristic for this product.

10. STABILITY and REACTIVITY

STABILITY: Stable.
DECOMPOSITION PRODUCTS: Thermal decomposition can generate carbon oxides.
MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong acids, mineral acids and strong oxidizers.
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: Avoid exposure or contact to extreme temperatures and incompatible chemicals.

PART IV *Is there any other useful information about this material?*

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The specific toxicology data available for components greater than 1% in concentration are as follows.

METHYL OXIMINO SILANE:
LD₅₀ (Oral-Rat) 2 – 3 ml/kg

IRON OXIDE:
TDLo (Subcutaneous-Rat) 135 mg/kg: Equivocal
tumorigenic agent
LD₅₀ (Intraperitoneal-Rat) 5500 mg/kg
LD₅₀ (Intraperitoneal-Mouse) 5400 mg/kg
LDLo (Subcutaneous-Dog, adult) 30 mg/kg

SUSPECTED CANCER AGENT: The components of this product are listed by agencies tracking potential carcinogenic effects, as follows:

METHYL ETHYL KETOXIME a component of <1% in Methyl Oximino Silane: MAK 2-Substances which are considered carcinogenic for man because adequate results of long-term animal studies or evidence from animal and epidemiological studies indicate that they can make a significant contribution to cancer risk.

IRON OXIDE: ACGIH TLV-4 (Not Classifiable as to Human Carcinogenicity) IARC-3, Unclassifiable as to Carcinogenicity in Human)

The remaining components of this product are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, and CAL/OSHA and therefore are neither considered to be nor suspected to be cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: Contact with this product is not expected to be irritating

SENSITIZATION TO THE PRODUCT: Due to the presence of Ethyl Methyl Ketoxime in this product, a hazard of skin sensitization exists.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components on the human reproductive system.

Mutagenicity: This product is not reported to produce mutagenic effects in humans. Animal mutation data are available for the Ethyl Methyl Ketoxime; these data are from test on specific animal tissues, exposed to high levels of this compound.

Embryotoxicity: This product is not reported to produce embryotoxic effects in humans.

Teratogenicity: This product is not reported to cause teratogenic effects in humans.

Reproductive Toxicity: This product is not reported to cause reproductive effects in humans.

REPRODUCTIVE TOXICITY INFORMATION (continued):

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

ACGIH BIOLOGICAL EXPOSURE INDICES: Currently, there are no ACGIH Biological Exposure Indices (BEIs) determined for the components of this product.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: This product will persist in the environment.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: This product may be harmful to contaminated plant and animal-life (especially if large quantities are released).

EFFECT OF CHEMICAL ON AQUATIC LIFE: This product may be harmful to contaminated aquatic plant and animal life.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations or with regulations of Canada and its Provinces. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

U.S. EPA WASTE NUMBER: Not applicable.

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME: Not applicable.

HAZARD CLASS NUMBER and DESCRIPTION: Not applicable.

UN IDENTIFICATION NUMBER: Not applicable.

PACKING GROUP: Not applicable.

DOT LABEL(S) REQUIRED: Not applicable.

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2000): Not applicable.

MARINE POLLUTANT: This product is not designated by the DOT to be a Marine Pollutant (49 CFR 172.101, Appendix B).

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This material is not considered as dangerous goods by Transport Canada.

IATA DESIGNATION: This material is not considered as dangerous goods by the International Air Transport Association.

UPS SHIPPING: This material is not considered as Hazardous Materials by the United Parcel Service.

15. REGULATORY INFORMATION

ADDITIONAL U.S. 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 lb (4,540 kg) may apply, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory.

OTHER U.S. FEDERAL REGULATIONS: This product contains methylpolysiloxanes which can generate formaldehyde at temperatures above 150°C (302°F) in atmospheres that contain oxygen. Formaldehyde is a skin and respiratory sensitizer and a potential cancer hazard. Exposures to formaldehyde are regulated by OSHA under 29 CFR part 1910.1048. Workplace exposure to formaldehyde should be evaluated when this product is used in high temperature processes to assess whether the actual airborne concentrations exceed any of the action levels defined in the OSHA standard.

15. REGULATORY INFORMATION (Continued)

ADDITIONAL U.S. REGULATIONS (continued):

U.S. STATE REGULATORY INFORMATION: Components of this product are covered under specific State regulations, as denoted below:

Alaska - Designated Toxic and Hazardous Substances: Iron Oxide.	Michigan - Critical Materials Register: None.	Pennsylvania - Hazardous Substance List: Iron Oxide.
California - Permissible Exposure Limits for Chemical Contaminants: Iron Oxide.	Minnesota - List of Hazardous Substances: Iron Oxide.	Rhode Island - Hazardous Substance List: Iron Oxide.
Florida - Substance List: Iron Oxide.	Missouri - Employer Information/Toxic Substance List: Iron Oxide.	Texas - Hazardous Substance List: Iron Oxide.
Illinois - Toxic Substance List: Iron Oxide.	New Jersey - Right to Know Hazardous Substance List: Iron Oxide.	West Virginia - Hazardous Substance List: Iron Oxide.
Kansas - Section 302/313 List: None.	North Dakota - List of Hazardous Chemicals, Reportable Quantities: None.	Wisconsin - Toxic and Hazardous Substances: Iron Oxide.
Massachusetts - Substance List: Iron Oxide.		

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): No component of this product is on the California Proposition 65 lists.

ANSI LABELING (Z129.1): **WARNING!** PARTICULATES OR FUMES IF INVOLVED IN FIRE GENERATED BY THE PRODUCT MAY IRRITATE SKIN AND EYES. MAY CAUSE SKIN SENSITIZATION AND ALLERGIC REACTION. PARTICULATES OR FUMES IF INVOLVED IN FIRE MAY BE HARMFUL IF INGESTED OR INHALED. Avoid contact with skin, eyes, or clothing. Wash thoroughly after handling. Avoid breathing airborne particulates. Work in well-ventilated area. Do not taste or swallow. Wear gloves, goggles, and appropriate body protection. **FIRST-AID:** In case of contact with skin or eyes, flush skin with plenty of water for 15 minutes. If particulates or fumes are inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if adverse effects develop. **IN CASE OF FIRE:** Use water fog, dry chemical, CO₂, or "alcohol" foam. Consult Material Safety Data Sheet for additional information.

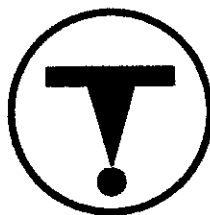
ADDITIONAL CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are listed on the DSL/NDSL Inventory.

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITY SUBSTANCES LISTS: The components of this product are not on the CEPA Priority Substances Lists.

CANADIAN WHMIS SYMBOLS: **Class D2A:** Materials Causing Other Toxic Effects-possible skin sensitization.



16. OTHER INFORMATION

DATE OF PRINTING:

April 6, 2011

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. Nelson EGS assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, Nelson EGS assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these which are commonly used include the following:
CAS #: This is the Chemical Abstract Service Number which uniquely identifies each constituent.

EXPOSURE LIMITS IN AIR:

ACGIH - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits. **TLV** - Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour Time Weighted Average (TWA), the 15-minute Short Term Exposure Limit, and the instantaneous Ceiling Level (C). Skin absorption effects must also be considered.

OSHA - U.S. Occupational Safety and Health Administration.

PEL - Permissible Exposure Limit - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL which was vacated by Court Order. **IDLH** - Immediately Dangerous to Life and Health - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. The **DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (OSHA). NIOSH issues exposure guidelines called Recommended Exposure Levels (RELs). When no exposure guidelines are established, an entry of NE is made for reference.

HAZARD RATINGS:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: Health Hazard: 0 (minimal acute or chronic exposure hazard); 1 (slight acute or chronic exposure hazard); 2 (moderate acute or significant chronic exposure hazard); 3 (severe acute exposure hazard; onetime overexposure can result in permanent injury and may be fatal); 4 (extreme acute exposure hazard; onetime overexposure can be fatal). Flammability Hazard: 0 (minimal hazard); 1 (materials that require substantial pre-heating before burning); 2 (combustible liquid or solids; liquids with a flash point of 38-93°C [100-200°F]); 3 (Class IB and IC flammable liquids with flash points below 38°C [100°F]); 4 (Class IA flammable liquids with flash points below 23°C [73°F] and boiling points below 38°C [100°F]). Reactivity Hazard: 0 (normally stable); 1 (material that can become unstable at elevated temperatures or which can react slightly with water); 2 (materials that are unstable but do not detonate or which can react violently with water); 3 (materials that can detonate when initiated or which can react explosively with water); 4 (materials that can detonate at normal temperatures or pressures).

NATIONAL FIRE PROTECTION ASSOCIATION: Health Hazard: 0 (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); 1 (materials that on exposure under fire conditions could cause irritation or minor residual injury); 2 (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); 3 (materials that can on short exposure could cause serious temporary or residual injury); 4 (materials that under very short exposure causes death or major residual injury). Flammability Hazard and Reactivity Hazard: Refer to definitions for "Hazardous Materials Identification System".

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA). Flash Point - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Autoignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD₅₀** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC₅₀** - Lethal Concentration (gases) which kills 50% of the exposed animals; ppm concentration expressed in parts of material per million parts of air or water; mg/m³ concentration expressed in weight of substance per volume of air; mg/kg quantity of material, by weight, administered to a test subject, based on their body weight in kg. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo**, **LDLo**, and **LDo**, or **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. **IARC** and **NTP** rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Sub rankings (2A, 2B, etc.) are also used. **Other Information:** **BEI** - ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV. **Ecological Information:** **EC** is the effect concentration in water. **BCF** = Bioconcentration Factor, which is used to determine if a substance will concentrate in life forms which consume contaminated plant or animal matter. Coefficient of Oil/Water Distribution is represented by log **K_{ow}** or log **K_{oc}** and is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION:

This section explains the impact of various laws and regulations on the material. **U.S.:** **EPA** is the U.S. Environmental Protection Agency. **DOT** is the U.S. Department of Transportation. **SARA** is the Superfund Amendments and Reauthorization Act. **TSCA** is the U.S. Toxic Substance Control Act. **CERCLA** (or Superfund) refers to the Comprehensive Environmental Response, Compensation, and Liability Act. Labeling is per the American National Standards Institute (**ANSI Z129.1**). **CANADA:** **CEPA** is the Canadian Environmental Protection Act. **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **TC** is Transport Canada. **DSL/NDL** are the Canadian Domestic/Non-Domestic Substances Lists.



Material Safety Data Sheet

01-JAN-2009

SpecSeal® FIRESTOP PILLOWS

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

PRODUCT NAME.....SpecSeal® Firestop Pillows
CHEMICAL FAMILY.....Does not apply

Company Identification

MANUFACTURER/DISTRIBUTOR

Specified Technologies Inc.
200 Evans Way
Somerville, NJ 08876

PHONE NUMBERS

Product Information : 1-908-526-8000
Emergency : 1-800-255-3924

COMPOSITION/INFORMATION ON INGREDIENTS

Mineral wool core with encapsulated fire resistant coating packaged in a sealed poly bag.

HAZARDS IDENTIFICATION

*****EMERGENCY OVERVIEW*****
* No hazard but dust or particles from broken bag may be possible skin and eye irritant. Solid. *

Potential Health Effects:

EYE: Contact may cause irritation.

SKIN: Contact may cause irritation.

INGESTION: Not likely.

INHALATION: Irritation of the nose, throat, and lungs may result from over-exposure to dust from broken bag.

CHRONIC (CANCER) INFORMATION: Mineral wool from broken bags is a suspect carcinogen.

LONG TERM TOXIC EFFECTS: None known.

FIRST AID MEASURES

First Aid

INHALATION: Remove to fresh air.

SKIN CONTACT: Wash thoroughly.

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

INGESTION: None applicable.

FIRE FIGHTING MEASURES

Not flammable.

EXTINGUISHING MEDIA:..... Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.

SPECIAL FIRE FIGHTING PROCEDURES:..... As for surrounding fire.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

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

HANDLING AND STORAGE

Store under ambient conditions. No special handling required.

EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION REQUIREMENTS:..... Safety glasses/goggles.

SKIN PROTECTION REQUIREMENTS:..... Gloves.

RESPIRATOR REQUIREMENTS:..... None.

VENTILATION REQUIREMENTS:..... If needed, use local exhaust ventilation to keep airborne concentrations below the TLV.

Exposure Guidelines

Exposure Limits

PEL (OSHA) : Particulates (Not Otherwise Classified) 15 mg/m³, 8 Hr. TWA, total dust 5 mg/m³, 8 Hr. TWA, respirable dust

TLV (ACGIH): None Established

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM Solid

SPECIFIC GRAVITY 0.1

PERCENT VOLATILES 0

SOLUBILITY IN WATER..... Very slight

STABILITY AND REACTIVITY

STABILITY: This is a stable material.

CONDITIONS TO AVOID None.

HAZARDOUS POLYMERIZATION:..... Will not occur.

INCOMPATIBILITIES:..... None special.

TOXICOLOGICAL INFORMATION

Mixture not tested but based on components:

Broken bags may emit dust that is irritating to skin, eyes and respiratory passages.

Mineral wool is designated as a carcinogen by IARC, ACGIH and NTP.

ECOLOGICAL INFORMATION

No data.

DISPOSAL CONSIDERATIONS

Waste Disposal:

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

TRANSPORTATION INFORMATION

DOT – not regulated.

REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Inventory Status: Article.

Section 313 Supplier Notifications.

This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

OTHER INFORMATION

NPCA-HMIS Rating

Health : 0
Flammability : 0
Reactivity : 0

Personal Protection rating to be supplied by user depending on use conditions.

STATE RIGHT-TO-KNOW LAWS

No substances on the state hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated. While we do not specifically analyze these products, or the raw materials used in their manufacture, for substances on various state hazardous substances lists, to the best of our knowledge the products on this Material Safety Data Sheet contain no such substances except for those specifically listed below:

SUBSTANCES ON THE NEW JERSEY WORKPLACE HAZARDOUS SUBSTANCE LIST PRESENT AT A CONCENTRATION OF 1% OR MORE (0.1% FOR SUBSTANCES IDENTIFIED AS CARCINOGENS, MUTAGENS OR TERATOGENS): NJTSRN-SSB.

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER: Contains substances know to the State of California to cause cancer.

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM: None known.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the data compiled. However, no representation, warranty, or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information.

Responsibility for MSDS :

Specified Technologies Inc.
200 Evans Way
Somerville, NJ 08876



Material Safety Data Sheet

SpecSeal® Firestop Putty

Revised 15 June 2011

1. Chemical Product / Company Identification

Material Identification:

Product Name: SpecSeal® Firestop Putty
Chemical Family: Mixture

Manufacturer / Supplier:

Specified Technologies Inc.
210 Evans Way
Somerville, NJ 08876 USA

Phone Numbers:

Product Information: 1-908-526-8000
Emergency: 1-800-255-3924

2. Hazards Identification

*****EMERGENCY OVERVIEW*****
* Possible skin and eye irritant. Red Solid *

Potential Health Effects:

EYE: Contact may cause irritation and redness.

SKIN: Contact may cause irritation and redness.

INGESTION: Relatively non-toxic.

INHALATION: Irritation of the nose, throat, and lungs may result from over-exposure to vapors or mist from heated material.

CHRONIC (CANCER) INFORMATION: Not classified as carcinogenic.

LONG TERM TOXIC EFFECTS: None known

3. Composition / Information on Ingredients

Property mixture containing in part:

Material	CAS Number
Polybutene	9003-29-6
Aluminum Trihydrate	21645-51-2
Graphite	7782-42-5

4. First Aid Measures

Inhalation: Remove to fresh air.

Skin Contact: Wash thoroughly.

Eye Contact: Irrigate eyes with running water for at least 15 minutes. Get medical attention if irritation develops.

Ingestion: None applicable

5. Fire Fighting Measures

Flash Point: >163 deg. C based on most volatile component.

Extinguishing Media: Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.

Special Fire Fighting Procedures: As for surrounding fires.

6. Accidental Release Measures

Safeguards (Personnel)

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

7. Handling and Storage

Store under ambient conditions. No special handling required.

8. Exposure Controls / Personal Protection

Eye Protection Requirements: Safety glasses/goggles.

Skin Protection Requirements: Gloves.

Respirator Requirements: None.

Ventilation Requirements: None.

Exposure Guidelines

None.

9. Physical and Chemical Properties

Physical Form: Red solid with minimal odor

Specific Gravity: 1.49

Percent Volatiles: None

Solubility in Water: Very slight

CARB VOC (Calculated): None

10. Stability and Reactivity

Stability: This is a stable material

Conditions to Avoid: Storage >55 deg. C

Hazardous Polymerization: Will not occur

Incompatibilities: None special

11. Toxicological Information

Mixture not tested but based on components:

May be irritating to skin and eyes and may aggravate existing skin and eye conditions. Irritation of the nose, throat, and lungs may result from over-exposure to vapors or mist from heated material.

None of the components are listed as carcinogens.

12. Ecological Information

No Data. Not anticipated to be an environmental hazard.

13. Disposal Considerations

Waste Disposal:

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

14. Transport Information

DOT - Not regulated.

15. Regulatory Information

U.S. Federal Regulations

TSCA Inventory Status: Article.

Section 313 Supplier Notifications.

This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

16. Other Information

NPCA-HMIS Rating

Health: 1
Flammability: 0
Reactivity: 0

Personal Protection rating to be supplied by user depending on use conditions.

STATE RIGHT-TO-KNOW LAWS

No substances on the state hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated. While we do not specifically analyze these products, or the raw materials used in their manufacture, for substances on various state hazardous substances lists, to the best of our knowledge the products on this Material Safety Data Sheet contain no such substances except for those specifically listed below:

SUBSTANCES ON THE NEW JERSEY WORKPLACE HAZARDOUS SUBSTANCE LIST PRESENT AT A CONCENTRATION OF 1% OR MORE (0.1% FOR SUBSTANCES IDENTIFIED AS CARCINOGENS, MUTAGENS OR TERATOGENS): None Known

16. Other Information - continued

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER:
Trace Crystalline Silica.

**WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS
OR OTHER REPRODUCTIVE HARM:** None known.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the data compiled. However, no representation, warranty, or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information.

Responsibility for MSDS :

Specified Technologies Inc.
210 Evans Way
Somerville, NJ 08876 USA



Material Safety Data Sheet

4-JUN-2010

SpecSeal® SERIES SSS SEALANT

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

PRODUCT NAME.....SpecSeal® SERIES SSS Sealant

CHEMICAL FAMILY.....Mixture

Company Identification

MANUFACTURER/DISTRIBUTOR

Specified Technologies Inc.
210 Evans Way
Somerville, NJ 08876

PHONE NUMBERS

Product Information : 1-908-526-8000
Emergency : 1-800-255-3924

HAZARDS IDENTIFICATION

*****EMERGENCY OVERVIEW*****
* Possible skin and eye irritant. Paste. *

Potential Health Effects:

EYE: Contact may cause irritation.

SKIN: Contact may cause irritation.

INGESTION: Relatively non-toxic.

INHALATION: Irritation of the nose, throat, and lungs may result from over-exposure to vapors or mist.

CHRONIC (CANCER) INFORMATION: Not classified as carcinogenic.

LONG TERM TOXIC EFFECTS: None known.

COMPOSITION/INFORMATION ON INGREDIENTS

Proprietary mixture containing in part:

INGREDIENT NAME	CAS NUMBER
ACRYLIC POLYMER	52640-81-0
ALUMINA TRIHYDRATE	21645-51-2
GRAPHITE	7782-47-8
CALCIUM CARBONATE	1317-65-3

FIRST AID MEASURES

First Aid

INHALATION: Remove to fresh air.

SKIN CONTACT: Wash thoroughly.

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

INGESTION: None applicable.

FIRE FIGHTING MEASURES

Not a fire hazard.

EXTINGUISHING MEDIA:..... Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.

SPECIAL FIRE FIGHTING PROCEDURES:..... As for surrounding fire.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

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

HANDLING AND STORAGE

Store under ambient conditions. No special handling required.

EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION REQUIREMENTS:..... Safety glasses/goggles.

SKIN PROTECTION REQUIREMENTS:..... Gloves.

RESPIRATOR REQUIREMENTS:..... None.

VENTILATION REQUIREMENTS:..... If needed, use local exhaust ventilation to keep airborne concentrations below the TLV.

Exposure Guidelines

Exposure Limits

PEL(OSHA) : Particulates (Not Otherwise Classified) 15 mg/m³, 8 Hr. TWA, total dust 5 mg/m³, 8 Hr. TWA, respirable dust

TLV(ACGIH): None Established

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM Red paste with minimal odor

SPECIFIC GRAVITY 1.24

PERCENT VOLATILES 20

EVAPORATION RATE >1

BOILING POINT 100 deg. C

SOLUBILITY IN WATER Infinitely dilutable

CARB VOC (Calculated) 0.40 Wt. %

SCAQMD VOC (US EPA Method 24) 29.2 Grams/Liter

STABILITY AND REACTIVITY

STABILITY:..... This is a stable material.

CONDITIONS TO AVOID Storage >55 deg. C

HAZARDOUS POLYMERIZATION:..... Will not occur.

INCOMPATIBILITIES:..... None special.

TOXICOLOGICAL INFORMATION

Mixture not tested but based on components:

May be irritating to skin and eyes and may aggravate existing skin and eye conditions.

None of the components are listed as carcinogens.

ECOLOGICAL INFORMATION

No data.

DISPOSAL CONSIDERATIONS

Waste Disposal:
Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

TRANSPORTATION INFORMATION

DOT – not regulated.

REGULATORY INFORMATION

U.S. Federal Regulations
TSCA Inventory Status: Reported/Included.
Section 313 Supplier Notifications.
This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

OTHER INFORMATION

NPCA-HMIS Rating

Health : 1
Flammability : 0
Reactivity : 0

Personal Protection rating to be supplied by user depending on use conditions.

STATE RIGHT-TO-KNOW LAWS

No substances on the state hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated. While we do not specifically analyze these products, or the raw materials used in their manufacture, for substances on various state hazardous substances lists, to the best of our knowledge the products on this Material Safety Data Sheet contain no such substances except for those specifically listed below:

SUBSTANCES ON THE NEW JERSEY WORKPLACE HAZARDOUS SUBSTANCE LIST PRESENT AT A CONCENTRATION OF 1% OR MORE (0.1% FOR SUBSTANCES IDENTIFIED AS CARCINOGENS, MUTAGENS OR TERATOGENS): NJTSRN-SSS100 Graphite, Alumina

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER:

None known.,

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM: None known.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the data compiled. However, no representation, warranty, or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information.

Responsibility for MSDS :

Specified Technologies Inc.
210 Evans Way
Somerville, NJ 08876



Material Safety Data Sheet

1-FEB-2012

SpecSeal® SERIES LCI SEALANT

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

PRODUCT NAME.....SpecSeal® LCI Sealant

CHEMICAL FAMILY.....Mixture

Company Identification

MANUFACTURER/DISTRIBUTOR

Specified Technologies Inc.
210 Evans Way
Somerville, NJ 08876 USA

PHONE NUMBERS

Product Information : 1-908-526-8000
Emergency : 1-800-255-3924

HAZARDS IDENTIFICATION

*****EMERGENCY OVERVIEW*****
* Possible skin and eye irritant. Paste. *

Potential Health Effects:

EYE: Contact may cause irritation.

SKIN: Contact may cause irritation.

INGESTION: Relatively non-toxic.

INHALATION: Irritation of the nose, throat, and lungs may result from over-exposure to vapors or mist.

CHRONIC (CANCER) INFORMATION: Not classified as carcinogenic.

LONG TERM TOXIC EFFECTS: None known.

COMPOSITION/INFORMATION ON INGREDIENTS

Proprietary mixture containing in part:

INGREDIENT NAME	CAS NUMBER	PERCENTAGE
ACRYLIC POLYMER	82539-93-3	35 to 50%
ALUMINA TRIHYDRATE	21645-51-2	15 to 35%
GRAPHITE	7782-47-8	2 to 8%
CALCIUM CARBONATE	1317-65-3	15 to 35%

FIRST AID MEASURES

First Aid

INHALATION: Remove to fresh air.

SKIN CONTACT: Wash thoroughly.

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

INGESTION: None applicable.

FIRE FIGHTING MEASURES

Not a fire hazard.

EXTINGUISHING MEDIA:..... Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.

SPECIAL FIRE FIGHTING PROCEDURES:..... As for surrounding fire.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

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

HANDLING AND STORAGE

Store under ambient conditions. No special handling required.

EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION REQUIREMENTS:..... Safety glasses/goggles.

SKIN PROTECTION REQUIREMENTS:..... Gloves.

RESPIRATOR REQUIREMENTS:..... None.

VENTILATION REQUIREMENTS:..... If needed, use local exhaust ventilation to keep airborne concentrations below the TLV.

Exposure Guidelines

Exposure Limits

PEL(OSHA) : Particulates (Not Otherwise Classified) 15 mg/m³, 8 Hr. TWA, total dust 5 mg/m³, 8 Hr. TWA, respirable dust

TLV(ACGIH): None Established

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM Paste with minimal odor

SPECIFIC GRAVITY 1.38

PERCENT VOLATILES 22

EVAPORATION RATE >1

BOILING POINT 100 deg. C

SOLUBILITY IN WATER Infinitely dilutable

CARB VOC (Calculated) 0.42 Wt. %

SCAQMD VOC (US EPA Method 24) 32.7 Grams/Liter

STABILITY AND REACTIVITY

STABILITY:..... This is a stable material.

CONDITIONS TO AVOID Storage >55 deg. C

HAZARDOUS POLYMERIZATION:..... Will not occur.

INCOMPATIBILITIES:..... None special.

TOXICOLOGICAL INFORMATION

Mixture not tested but based on components:

May be irritating to skin and eyes and may aggravate existing skin and eye conditions.

None of the components are listed as carcinogens.

ECOLOGICAL INFORMATION

No data.

DISPOSAL CONSIDERATIONS

Waste Disposal:

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

TRANSPORTATION INFORMATION

DOT – not regulated.

REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Inventory Status: Reported/Included.

Section 313 Supplier Notifications.

This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

OTHER INFORMATION

NPCA-HMIS Rating

Health : 1

Flammability : 0

Reactivity : 0

Personal Protection rating to be supplied by user depending on use conditions.

STATE RIGHT-TO-KNOW LAWS

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Responsibility for MSDS :

Specified Technologies Inc.
210 Evans Way
Somerville, NJ 08876 USA



Material Safety Data Sheet

MSDS ID NO.: 0104SPE012
 Revision date: 05/25/2011

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Speedway Regular Unleaded Gasoline
Synonym: Regular Unleaded Gasoline, Speedway; Gasoline, Speedway Regular Unleaded
Chemical Family: Petroleum Hydrocarbon
Formula:

Formula: Mixture

Manufacturer:
 Speedway LLC
 P.O. Box 1500
 Enon, OH 45501

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Gasoline is a complex combination of hydrocarbons consisting of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons having carbon numbers predominantly greater than C3 and boiling in the range of 85-500 F. Can contain small amounts of dye and other additives (>0.02%) which are not considered hazardous at the concentrations used.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Speedway Regular Unleaded Gasoline	86290-81-5	100	300 ppm TWA 500 ppm STEL		

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Saturated Hydrocarbons	Mixture	55-85			

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Aromatic Hydrocarbons	Mixture	10-40			
Unsaturated Hydrocarbons	Mixture	1-15			
Toluene	108-88-3	1-15	20 ppm TWA	= 100 ppm TWA = 375 mg/m ³ TWA = 150 ppm STEL = 560 mg/m ³ STEL	
Xylene	1330-20-7	2-10	100 ppm TWA 150 ppm STEL	= 100 ppm TWA = 435 mg/m ³ TWA = 150 ppm STEL = 655 mg/m ³ STEL	
1,2,4-Trimethylbenzene	95-63-6	1-5	= 25 ppm TWA	= 125 mg/m ³ TWA = 25 ppm TWA	
Benzene	71-43-2	0.5-3.5	Skin - potential significant contribution to overall exposure by the cutaneous route 0.5 ppm TWA 2.5 ppm STEL	= 25 ppm Ceiling = 10 ppm TWA = 50 ppm STEL	OSHA Exposure Limit as specified in 1910.1028: = 1.0 ppm TWA = 5 ppm STEL = 0.5 ppm Action Level
Hexane	110-54-3	0-3	Skin - potential significant contribution to overall exposure by the cutaneous route 50 ppm TWA	= 180 mg/m ³ TWA = 50 ppm TWA	
Ethyl Benzene	100-41-4	0.5-2.0	100 ppm TWA 125 ppm STEL	= 100 ppm TWA = 435 mg/m ³ TWA = 125 ppm STEL = 545 mg/m ³ STEL	
Napthalene	91-20-3	0.1-.5	Skin - potential significant contribution to overall exposure by the cutaneous route 10 ppm TWA 15 ppm STEL	= 10 ppm TWA = 50 mg/m ³ TWA = 15 ppm STEL = 75 mg/m ³ STEL	

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

Small amounts of methyl tertiary butyl ether (MTBE, less than 0.25%) may be present in this product as a result of transportation related activities.

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!

FUMES MAY CAUSE EYE AND RESPIRATORY IRRITATION.
MAY BE HARMFUL OR FATAL IF SWALLOWED
MAY CAUSE LUNG DAMAGE
OVEREXPOSURE MAY CAUSE CNS DEPRESSION
BREATHING HIGH CONCENTRATIONS CAN CAUSE IRREGULAR HEARTBEATS WHICH MAY BE FATAL

DANGER - CONTAINS BENZENE - MAY CAUSE CANCER
CAN CAUSE LEUKEMIA AND OTHER BLOOD DISORDERS.
POTENTIAL REPRODUCTIVE HAZARD
SEE TOXICOLOGICAL INFORMATION SECTION FOR MORE INFORMATION

EXTREMELY FLAMMABLE LIQUID AND VAPOR
VAPOR MAY CAUSE FLASH FIRE OR EXPLOSION
MATERIAL MAY ACCUMULATE STATIC CHARGE

STABLE

Inhalation:

Breathing high concentrations may be harmful.

May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.

Breathing high concentrations of this material, for example, in a confined space or by intentional abuse, can cause irregular heartbeats which can cause death. See Toxicological Effects (Section 11) for more information.

Ingestion:

Swallowing this material may be harmful.

May cause irritation of the mouth, throat and gastrointestinal tract.

May cause central nervous system depression or effects. Symptoms may include salivation, pain, nausea, vomiting and diarrhea. Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation" (see Inhalation section).

Skin contact:

Contact may cause reddening, itching and inflammation.

Skin contact may cause harmful effects in other parts of the body.

Eye contact:

Contact may cause pain and severe reddening and inflammation of the conjunctiva.

Effects may become more serious with repeated or prolonged contact.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Speedway Regular Unleaded Gasoline 86290-81-5	A2 - Possible Human Carcinogen		A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans	

Notes:

The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence for the carcinogenicity of gasoline in humans. IARC determined that limited evidence of carcinogenicity in animals exists. IARC's overall evaluation of gasoline, in spite of limited carcinogenicity evidence, has resulted in the IARC designation of gasoline as possibly carcinogenic to humans (Group 2B) because gasoline contains benzene.

IARC has determined that there is inadequate evidence for the carcinogenicity of gasoline engine exhaust in humans or animals. However, IARC's overall evaluation on gasoline engine exhaust, in spite of the absence of carcinogenicity data, has resulted in the IARC designation of gasoline engine exhaust as possibly carcinogenic to humans (Group 2B) because of the presence of certain engine exhaust components.

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Toluene 108-88-3		male rat-no evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence	A4 - Not Classifiable as a Human Carcinogen	
Xylene 1330-20-7		male rat-no evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence	A4 - Not Classifiable as a Human Carcinogen	
Benzene 71-43-2	Supplement 7 [1987], Monograph 29 [1982]	Known Human Carcinogen male rat-clear evidence; female rat-clear evidence; male mice-clear evidence; female mice-clear evidence	A1 - Confirmed Human Carcinogen	Present
Ethyl Benzene 100-41-4	Monograph 77 [2000]	male rat-clear evidence; female rat-some evidence; male mice-some evidence; female mice-some evidence	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans	Present
Napthalene 91-20-3	Monograph 82 [2002]	Reasonably Anticipated To Be A Human Carcinogen male rat-clear evidence; female rat-clear evidence; male mice-no evidence; female mice-some evidence	A4 - Not Classifiable as a Human Carcinogen	Present

Notes:

The International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), and OSHA have determined that there is sufficient evidence for the carcinogenicity of benzene in humans (Group 1A).

The International Agency for Research on Cancer (IARC) has determined that there is sufficient evidence for the carcinogenicity of alcoholic beverages (ethanol) in humans (Group 1).

The International Agency for Research on Cancer (IARC) has concluded that ethyl benzene is possibly carcinogenic to humans (Group 2B).

The International Agency for Research on Cancer (IARC) and the Environmental Protection Agency (EPA) have determined that naphthalene is a possible human carcinogen.

4. FIRST AID MEASURES

Eye Contact:

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. GET IMMEDIATE MEDICAL ATTENTION.

Skin Contact:

Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation persists. Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties.

Ingestion:

Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest.
GET IMMEDIATE MEDICAL ATTENTION.

Inhalation:

Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest.
GET IMMEDIATE MEDICAL ATTENTION.

NOTES TO PHYSICIAN:

INHALATION: This material (or a component) sensitizes the myocardium to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.

INGESTION: If ingested this material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.

Medical Conditions Aggravated By Exposure:

blood (anemia), bone marrow,
blood-forming organs, skin, respiratory system, lungs, liver, kidney,

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

5. FIRE FIGHTING MEASURES

Specific hazards:

This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

Special protective equipment for firefighters:

Avoid using straight water streams. Water may be ineffective in extinguishing low flash point fires, but can be used to cool exposed surfaces. Avoid excessive water spray application. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Keep run-off water out of sewers and water sources.

Flash point:

-50 F

Autoignition temperature:

C.A. 495 F

Flammable limits in air - lower (%):

1.4

Flammable limits in air - upper (%):

7.6

NFPA rating:

Health: 1

Flammability: 3

Instability: 0

Other: -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues. Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

For use as a motor fuel only. Product should never be used as a solvent due to its flammable and potentially toxic properties. Siphoning by mouth can result in lung aspiration which can be harmful or fatal.

Portable containers of 12 gallons (45 liters) or less should never be filled while they are in or on a motor vehicle or marine craft. Static electric discharge can ignite fuel vapors when filling non-grounded containers or vehicles on trailers. Containers should be placed on the ground. The nozzle spout must be kept in contact with the container before and during the entire filling operation. Use only approved containers. A buildup of static electricity can occur upon re-entry into a vehicle during fueling especially in cold or dry climate conditions. The charge is generated by the action of dissimilar fabrics (i.e., clothing and upholstery) rubbing across each other as a person enters/exits the vehicle. A flash fire can result from this discharge if sufficient flammable vapors are present. Therefore, do not get back in your vehicle while refueling. Cellular phones and other electronic devices may have the potential to emit electrical charges (sparks). Sparks in potentially explosive atmospheres (including fueling areas such as gas stations) could cause an explosion if sufficient flammable vapors are present. Therefore, turn off cellular phones and other electronic devices when working in potentially explosive atmospheres or keep devices inside your vehicle during refueling.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures:	Local or general exhaust required in an enclosed area or when there is inadequate ventilation.
Respiratory protection:	Approved organic vapor chemical cartridge or supplied air respirators should be worn for exposures to any components exceeding the TWA or STEL. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.
Skin and body protection:	Use nitrile rubber, viton or PVA gloves for repeated or prolonged skin exposure.
Eye protection:	No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields.
Hygiene measures:	No special protective clothing is normally required. Select protective clothing depending on industrial operations. Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Clear Or Colored Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Clear or Colored
Odor:	Strong Hydrocarbon
Molecular weight:	100
pH:	Neutral
Boiling point/range (5-95%):	90-437 F
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.

MSDS ID NO.: 0104SPE012

Product name: Speedway Regular Unleaded Gasoline

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9. PHYSICAL AND CHEMICAL PROPERTIES:

Specific gravity:	0.70-0.77
Density:	5.9-6.3 lbs/gal
Bulk density:	No data available.
Vapor density:	3-4
Vapor pressure:	Not determined.
Evaporation rate:	No data available.
Solubility:	Not determined
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	2.13-4.5
VOC content(%):	100%
Viscosity:	No data available.

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.
Materials to avoid:	Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid:	Excessive heat, sources of ignition, open flame.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Speedway Regular Unleaded Gasoline	86290-81-5	>10,000 ppm [Dog]	>5 ml/kg [Rabbit]	>14 ml/kg [Rat]

Toxicology Information:

BENZENE: Studies of Workers Overexposed to Benzene: Studies of workers exposed to benzene show clear evidence that overexposure can cause cancer and other diseases of the blood forming organs including Acute Myelogenous Leukemia (AML), and Aplastic Anemia (AA), an often fatal disease. Some studies suggest overexposure to benzene may also be associated with Myelodysplastic Syndrome (MDS). Findings from a Case-Control study of workers exposed to benzene was reported during the 2009 Benzene Symposium in Munich included an increase in Acute Myeloid Leukemias and Non-Hodgkins Lymphoid Neoplasms (NHLN) of the subtype follicular lymphoma (FL) in some occupational categories. Some studies of workers exposed to benzene have shown an association with increased rates of chromosome aberrations in circulating lymphocytes. One study of women workers exposed to benzene suggested a weak association with irregular menstruation. However, other studies of workers exposed to benzene have not demonstrated clear evidence of an effect on fertility or reproductive outcome in humans. Benzene can cross the placenta and affect the developing fetus. Cases of AA have been reported in the offspring of persons severely overexposed to benzene. Studies in laboratory animals indicate that prolonged, repeated exposure to high levels of benzene vapor can cause bone marrow suppression and cancer in multiple organ systems. Studies in laboratory animals show evidence of adverse effects on male reproductive organs following high levels of exposure but no significant effects on reproduction have been observed. Embryotoxicity has been reported in studies of laboratory animals but effects were limited to reduced fetal weight and minor skeletal variations. Benzene has been classified as a proven human carcinogen by OSHA and a Group 1 (Carcinogenic to Humans) material by IARC.

The current proposed IARC classification for benzene is summarized as follows: Sufficient evidence for Acute Myeloid Leukemia; limited evidence for Acute Lymphatic Leukemia, Chronic Lymphatic Leukemia, Non-Hodgkin Lymphoma, and Multiple Myeloma.

NAPHTHAS: In a large epidemiological study on over 15,000 employees at several petroleum refineries and amongst residents located near these refineries, no increased risk of kidney cancer was observed in association with gasoline exposures (a similar material). In a similar study, no increased risk of kidney cancer was observed among petroleum refinery workers, but there was a slight trend in the incidence of kidney cancers among service station employees, especially after a 30-year latency period.

ISOPARAFFINS: Studies in laboratory animals have shown that long-term exposure to similar materials (isoparaffins) can cause kidney damage and kidney cancer in male laboratory rats. However, in-depth research indicates that these findings are unique to the male rat, and that these effects are not relevant to humans.

TOLUENE: Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects. Abuse of toluene at high concentrations (e.g., glue sniffing and solvent abuse) has been associated with adverse effects on the liver, kidney and nervous system, and can cause CNS depression, cardiac arrhythmias, and death. Studies of workers indicate longterm exposure may be related to impaired color vision and hearing. Some studies of workers suggest longterm exposure may be related to neurobehavioral and cognitive changes. Some of these effects have been observed in laboratory animals following repeated exposure to high levels of toluene. Several studies of workers suggest longterm exposure may be related to small increases in spontaneous abortions and changes in some gonadotropic hormones. However, the weight of evidence does not indicate toluene is a reproductive hazard to humans. Studies in laboratory animals indicate some changes in reproductive organs following high levels of exposure, but no significant effects on mating performance or reproduction were observed. Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects. Findings in laboratory animals have been largely negative. Positive findings include small increases in minor

skeletal and visceral malformations and developmental delays following very high levels of maternal exposure. Studies of workers indicate long-term exposure may be related to effects on the liver, kidney and blood, but these appear to be limited to changes in serum enzymes and decreased leukocyte counts. Adverse effects on the liver, kidney, thymus and nervous system were observed in animal studies following very high levels of exposure. The relevance of these findings to humans is not clear at this time.

ETHYLBENZENE: Findings from a 2-year inhalation study in rodents conducted by NTP were as follows: Effects were observed only at the highest exposure level (750 ppm). At this level the incidence of renal tumors was elevated in male rats (tubular carcinomas) and female rats (tubular adenomas). The incidence of tumors was also elevated in male mice (alveolar and bronchiolar carcinomas) and female mice (hepatocellular carcinomas). IARC has classified ethyl benzene as "possibly carcinogenic to humans" (Group 2B). Studies in laboratory animals indicate some evidence of post-implantation deaths following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate limited evidence of renal malformations, resorptions, and developmental delays following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals have demonstrated evidence of ototoxicity (hearing loss) following exposure levels as low as 300 ppm for 5 days. Studies in laboratory animals indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland.

XYLENES, ALL ISOMERS: Overexposure to xylene may cause upper respiratory tract irritation, headache, cyanosis, blood serum changes, CNS damage and narcosis. Effects may be increased by the use of alcoholic beverages. Evidence of liver and kidney impairment were reported in workers recovering from a gross overexposure. Effects from Prolonged or Repeated Exposure: Impaired neurological function was reported in workers exposed to solvents including xylene. Studies in laboratory animals have shown evidence of impaired hearing following high levels of exposure. Studies in laboratory animals suggest some changes in reproductive organs following high levels of exposure but no significant effects on reproduction were observed. Studies in laboratory animals indicate skeletal and visceral malformations, developmental delays, and increased fetal resorptions following extremely high levels of maternal exposure. The relevance of these observations to humans is not clear at this time. Adverse effects on the liver, kidney, bone marrow (changes in blood cell parameters) were observed in laboratory animals following high levels of exposure. The relevance of these observations to humans is not clear at this time.

C9 AROMATIC HYDROCARBONS: A developmental inhalation study was conducted in laboratory mice. Increased implantation losses, reduced fetal weights, delayed ossification and an increased incidence of cleft palate were observed at the highest exposure level (1,500 ppm). This exposure level was extremely toxic to pregnant female mice (44% mortality). Reduced fetal body weights were also observed at 500 ppm. A multi-generation reproduction inhalation study was conducted in laboratory rats. Reductions in pup weights, pup weight gain, litter size, and pup survival were observed at 1,500 ppm, an exposure level at which significant maternal toxicity was observed. Reduced pup weight gain was also observed at 500 ppm.

NAPHTHALENE: Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from overexposure to naphthalene. Persons with Glucose 6-phosphate dehydrogenase (G6PD) deficiency are more prone to the hemolytic effects of naphthalene. Adverse effects on the kidney have been reported in persons overexposed to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect. Hemolytic anemia has been observed in laboratory animals exposed to

naphthalene. Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract. Cataracts and other adverse effects on the eye have been observed in laboratory animals exposed to high levels of naphthalene. Findings from a large number of bacterial and mammalian cell mutation assays have been negative. A few studies have shown chromosomal effects (elevated levels of Sister Chromatid Exchange or chromosomal aberrations) in vitro. Naphthalene has been classified as Possibly Carcinogenic to Humans (2B) by IARC, based on findings from studies in laboratory animals.

N-HEXANE: Long-term or repeated exposure to n-hexane can cause peripheral nerve damage. Initial symptoms are numbness of the fingers and toes. Also, motor weakness can occur in the digits, but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. Testicular atrophy and partial to full loss of the germ cell line were observed in sub-chronic high-dose inhalation studies of laboratory rodents. These effects appeared irreversible. Rodent reproduction studies have shown evidence of reduced fetal weight but no frank malformations.

PENTANES: Studies of pentane isomers in laboratory animals indicate exposure to extremely high levels (roughly 10 vol.%) may induce cardiac arrhythmias (irregular heartbeats) which may be serious or fatal.

CARBON MONOXIDE: is a chemical asphyxiant with no warning properties (such as odor). At 400-500 ppm for 1 hour headache and dyspnea may occur. If activity is increased, symptoms of overexposure may include nausea, irritability, increased respiration, tinnitus, sweating, chest pain, confusion, impaired judgement, dizziness, weakness, drowsiness, ataxia, irregular heart beat, cyanosis and pallor. Levels in excess of 1000 ppm can result in collapse, loss of consciousness, respiratory failure and death. Extremely high concentrations (12,800 ppm) can cause immediate unconsciousness and death in 1-3 minutes. Repeated anoxia can lead to central nervous system damage and peripheral neuropathy, with loss of sensation in the fingers, amnesia, and mental deterioration and possible congestive heart failure. Damage may also occur to the fetus, lung, liver, kidney, spleen, cardiovascular system and other organs.

COMBUSTION ENGINE EXHAUST: Chronic inhalation studies of gasoline engine exhaust in mice, rats and hamsters did not produce any carcinogenic effects. Condensates/extracts of gasoline engine exhaust produced an increase in tumors compared to controls when testing by skin painting, subcutaneous injection, intratracheal instillation or implantation into the lungs.

Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffers Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas, and gasoline.

TARGET ORGANS:

central nervous system, brain, peripheral nervous system, auditory system, respiratory system, mucous membranes, lungs, skin, eyes, heart, blood, blood-forming organs, bone marrow, reproductive organs, testes, immune system, lymphatics, thymus, thyroid, pituitary gland,

12. ECOTOXICOLOGICAL INFORMATION

- Mobility:** May partition into air, soil and water.
- Ecotoxicity:** Toxic to aquatic organisms.
- Bioaccumulation:** Not expected to bioaccumulate in aquatic organisms.
- Persistence/Biodegradation:** Readily biodegradable in the environment.

13. DISPOSAL CONSIDERATIONS

- Cleanup Considerations:** This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of a "characteristic" hazardous waste. This product could also contain benzene at >0.5 ppm and could exhibit the characteristics of "toxicity" as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

- DOT:**
- Transport Information:** This material when transported via US commerce would be regulated by DOT Regulations.
- | | |
|---------------------------------------|-----------------|
| Proper shipping name: | Gasoline |
| UN/Identification No: | UN 1203 |
| Hazard Class: | 3 |
| Packing group: | II |
| DOT reportable quantity (lbs): | Not applicable. |

- | | |
|------------------------------|----------|
| Proper shipping name: | Gasoline |
| UN/Identification No: | UN 1203 |
| Hazard Class: | 3 |
| Packing group: | II |

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Saturated Hydrocarbons	NA
Aromatic Hydrocarbons	NA
Unsaturated Hydrocarbons	NA
Toluene	NA
Xylene	NA
1,2,4-Trimethylbenzene	NA
Benzene	NA
Hexane	NA
Ethyl Benzene	NA
Napthalene	NA

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Saturated Hydrocarbons	NA
Aromatic Hydrocarbons	NA
Unsaturated Hydrocarbons	NA
Toluene	= 454 kg final RQ
Xylene	= 100 lb final RQ = 45.4 kg final RQ
1,2,4-Trimethylbenzene	NA
Benzene	= 10 lb final RQ = 4.54 kg final RQ
Hexane	= 2270 kg final RQ = 5000 lb final RQ
Ethyl Benzene	= 1000 lb final RQ = 454 kg final RQ
Napthalene	= 100 lb final RQ = 45.4 kg final RQ

SARA Section 311/312 The following EPA hazard categories apply to this product:

Acute Health Hazard
Chronic Health Hazard
Fire Hazard

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Saturated Hydrocarbons	None
Aromatic Hydrocarbons	None
Unsaturated Hydrocarbons	None

Name	CERCLA/SARA 313 Emission reporting:
Toluene	= 1.0 % de minimis concentration
Xylene	= 1.0 % de minimis concentration
1,2,4-Trimethylbenzene	= 1.0 % de minimis concentration
Benzene	= 0.1 % de minimis concentration
Hexane	= 1.0 % de minimis concentration
Ethyl Benzene	= 0.1 % de minimis concentration
Napthalene	= 0.1 % de minimis concentration

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Saturated Hydrocarbons

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Aromatic Hydrocarbons

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Unsaturated Hydrocarbons

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed

Saturated Hydrocarbons

New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Toluene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	developmental toxicity, initial date 1/1/91
New Jersey Right-To-Know:	sn 1866
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic (skin); Flammable (skin)
Michigan critical materials register list:	= 100 lb Annual usage threshold
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree; teratogen
New Jersey - Environmental Hazardous Substances List:	SN 1866 TPQ 500 lb
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb RQ land/water = 1000 lb RQ air

Xylene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 2014
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic (skin); Flammable (skin)
Michigan critical materials register list:	= 100 lb Annual usage threshold all isomers
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree

Saturated Hydrocarbons

New Jersey - Environmental Hazardous Substances List: SN 2014 TPQ 500 lb
Illinois - Toxic Air Contaminants Present
New York - Reporting of Releases Part 597 - = 1 lb RQ land/water
List of Hazardous Substances: = 1000 lb RQ air

1,2,4-Trimethylbenzene

Louisiana Right-To-Know: Not Listed
California Proposition 65: Not Listed
New Jersey Right-To-Know: sn 2716
Pennsylvania Right-To-Know: Environmental hazard
Massachusetts Right-To-Know: Present
Florida substance List: Not Listed.
Rhode Island Right-To-Know: Toxic
Michigan critical materials register list: Not Listed.
Massachusetts Extraordinarily Hazardous Substances: Not Listed
California - Regulated Carcinogens: Not Listed
Pennsylvania RTK - Special Hazardous Substances: Not Listed
New Jersey - Special Hazardous Substances: Not Listed
New Jersey - Environmental Hazardous Substances List: SN 2716 TPQ 500 lb
Illinois - Toxic Air Contaminants Present
New York - Reporting of Releases Part 597 - Not Listed
List of Hazardous Substances:

Benzene

Louisiana Right-To-Know: Not Listed
California Proposition 65: carcinogen, initial date 2/27/87
developmental toxicity, initial date 12/26/97
male reproductive toxicity, initial date 12/26/97
sn 0197
New Jersey Right-To-Know: Environmental hazard; Special hazardous substance
Pennsylvania Right-To-Know: Carcinogen; Extraordinarily hazardous
Massachusetts Right-To-Know: Carcinogen; Extraordinarily hazardous
Florida substance List: Not Listed.
Rhode Island Right-To-Know: Toxic (skin); Flammable (skin); Carcinogen (skin)
Michigan critical materials register list: = 100 lb Annual usage threshold
Massachusetts Extraordinarily Hazardous Substances: carcinogen; extraordinarily hazardous
California - Regulated Carcinogens: Not Listed
Pennsylvania RTK - Special Hazardous Substances: Present
New Jersey - Special Hazardous Substances: carcinogen; flammable - third degree; mutagen; teratogen
New Jersey - Environmental Hazardous Substances List: SN 0197 TPQ 500 lb
Illinois - Toxic Air Contaminants Present
New York - Reporting of Releases Part 597 - = 1 lb RQ land/water
List of Hazardous Substances: = 10 lb RQ air

Hexane

Louisiana Right-To-Know: Not Listed
California Proposition 65: Not Listed
New Jersey Right-To-Know: sn 1340
Pennsylvania Right-To-Know: Present
Massachusetts Right-To-Know: Present

Saturated Hydrocarbons

Florida substance List: Not Listed.
Rhode Island Right-To-Know: Toxic; Flammable
Michigan critical materials register list: Not Listed.
Massachusetts Extraordinarily Hazardous Substances: Not Listed
California - Regulated Carcinogens: Not Listed
Pennsylvania RTK - Special Hazardous Substances: Not Listed
New Jersey - Special Hazardous Substances: flammable - third degree
New Jersey - Environmental Hazardous Substances List: SN 1340 TPQ 500 lb
Illinois - Toxic Air Contaminants Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances: = 1 lb RQ air
= 1 lb RQ land/water

Ethyl Benzene

Louisiana Right-To-Know: Not Listed
California Proposition 65: carcinogen, initial date 6/11/04
New Jersey Right-To-Know: sn 0851
Pennsylvania Right-To-Know: Environmental hazard
Massachusetts Right-To Know: Present
Florida substance List: Not Listed.
Rhode Island Right-To-Know: Toxic; Flammable
Michigan critical materials register list: Not Listed.
Massachusetts Extraordinarily Hazardous Substances: Not Listed
California - Regulated Carcinogens: Not Listed
Pennsylvania RTK - Special Hazardous Substances: Not Listed
New Jersey - Special Hazardous Substances: carcinogen; flammable - third degree
New Jersey - Environmental Hazardous Substances List: SN 0851 TPQ 500 lb
Illinois - Toxic Air Contaminants Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances: = 1 lb RQ land/water
= 1000 lb RQ air

Napthalene

Louisiana Right-To-Know: Not Listed
California Proposition 65: carcinogen, initial date 4/19/02

New Jersey Right-To-Know: sn 1322
Pennsylvania Right-To-Know: Environmental hazard
Massachusetts Right-To Know: Present

Florida substance List: Not Listed.
Rhode Island Right-To-Know: Toxic; Flammable
Michigan critical materials register list: Not Listed.
Massachusetts Extraordinarily Hazardous Substances: Not Listed
California - Regulated Carcinogens: Not Listed
Pennsylvania RTK - Special Hazardous Substances: Not Listed
New Jersey - Special Hazardous Substances: carcinogen

Saturated Hydrocarbons

New Jersey - Environmental Hazardous
Substances List:
Illinois - Toxic Air Contaminants
New York - Reporting of Releases Part 597 -
List of Hazardous Substances:

SN 1322 TPQ 500 lb

Present
= 1 lb RQ land/water
= 100 lb RQ air

Canadian Regulatory Information:

Canada DSL/NDL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Toluene	B2, D2A, D2B	1 %
Xylene	B2, D2A, D2B	
1,2,4-Trimethylbenzene	B3	0.1 %
Benzene	B2, D2A, D2B	0.1 %
Hexane	B2, D2A	1 %
Ethyl Benzene	B2, D2A, D2B	0.1 %
Napthalene	B4, D2A	1 %

NOTE: Not Applicable.

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Mark S. Swanson, Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Speedway LLC does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. Speedway assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet



Material Safety Data Sheet

MSDS ID NO.: 0114SPE012
 Revision date: 05/25/2011

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Speedway No. 2 Low Sulfur Diesel 500 ppm Sulfur Max
Synonym: Diesel No. 2 500 ppm Sulfur Max; No. 2 Diesel, Motor Vehicle Use, Undyed; No. 2 Diesel 500 ppm Sulfur Max; No. 2 MV 500 Diesel; No. 2 Diesel (0.05% Sulfur Max)
Chemical Family: Petroleum Hydrocarbon
Formula: Mixture

Manufacturer:
 Speedway LLC
 P.O. Box 1500
 Enon, OH 45501

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

No. 2 Diesel is a complex mixture of paraffins, cycloparaffins, olefins, and aromatic hydrocarbons having hydrocarbon chain lengths predominately in the range of C11 through C20. May contain a trace amount of benzene (<0.01%). Can contain small amounts of dye and other additives (<0.15%) which are not considered hazardous at the concentrations used.

Note: May contain up to 5% Renewable Diesel, CAS Number 928771-01-1.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Speedway No. 2 Low Sulfur Diesel 500 ppm Sulfur Max	68476-30-2	100	Skin - potential significant contribution to overall exposure by the cutaneous route 100 mg/m ³ TWA		

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Saturated Hydrocarbons	Mixture	54-85			

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Aromatic Hydrocarbons	Mixture	15-45			
Unsaturated Hydrocarbons	Mixture	1-6			
Naphthalene	91-20-3	0.01-0.5	Skin - potential significant contribution to overall exposure by the cutaneous route 10 ppm TWA 15 ppm STEL	= 10 ppm TWA = 50 mg/m ³ TWA = 15 ppm STEL = 75 mg/m ³ STEL	

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION!

VAPORS, FUMES, OR MISTS MAY CAUSE RESPIRATORY TRACT IRRITATION
MAY BE HARMFUL OR FATAL IF SWALLOWED
MAY CAUSE LUNG DAMAGE
OVEREXPOSURE MAY CAUSE CNS DEPRESSION

MAY CAUSE CANCER BASED ON ANIMAL DATA
SEE TOXICOLOGICAL INFORMATION SECTION FOR MORE INFORMATION

COMBUSTIBLE LIQUID AND VAPOR
VAPOR MAY CAUSE FLASH FIRE
MATERIAL MAY ACCUMULATE STATIC CHARGE

STABLE

Inhalation:

Breathing high concentrations may be harmful.

May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure. Overexposure to this material may cause systemic damage including target organ effects listed under "Toxicological Information."

Ingestion:

Swallowing this material may be harmful.

May cause irritation of the mouth, throat and gastrointestinal tract. Symptoms may include salivation, pain, nausea, vomiting and diarrhea.

Aspiration into lungs may cause chemical pneumonia and lung damage. Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation" (see Inhalation section).

Skin contact:

Contact may cause reddening, itching and inflammation. Effects may become more serious with repeated or prolonged contact. Skin contact may cause harmful effects in other parts of the body.

Eye contact:

Contact may cause pain and severe reddening and inflammation of the conjunctiva. Effects may become more serious with repeated or prolonged contact.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Speedway No. 2 Low Sulfur Diesel 500 ppm Sulfur Max 68476-30-2	NE			

Notes:

The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence for the carcinogenicity of diesel fuel/fuel oil in humans. IARC determined that there was limited evidence for the carcinogenicity of marine diesel fuel in animals. Distillate (light) diesel fuels were not classifiable as to their carcinogenicity to humans (Group 3A).

IARC has determined that there is sufficient evidence for the carcinogenicity in experimental animals of diesel engine exhaust and extracts of diesel engine exhaust particles. IARC determined that there is only limited evidence for the carcinogenicity in humans of diesel engine exhaust. However, IARC's overall evaluation has resulted in the IARC designation of diesel engine exhaust as probably carcinogenic to humans (Group 2A) because of the presence of certain engine exhaust components.

The International Agency for Research on Cancer (IARC) has also determined that there is sufficient evidence for the carcinogenicity in experimental animals of light and heavy vacuum distillates, of light and heavy catalytically cracked distillates and of cracked residues (including heavy thermocracked distillates/residues) derived from the refining of crude oil.

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Naphthalene 91-20-3	Monograph 82 [2002]	Reasonably Anticipated To Be A Human Carcinogen male rat-clear evidence; female rat-clear evidence; male mice-no evidence; female mice-some evidence	A4 - Not Classifiable as a Human Carcinogen	Present

Notes:

The International Agency for Research on Cancer (IARC) and the Environmental Protection Agency (EPA) have determined that naphthalene is a possible human carcinogen.

4. FIRST AID MEASURES

Eye Contact:

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. GET IMMEDIATE MEDICAL ATTENTION.

Skin Contact:

Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation persists. Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties.

Ingestion:

Do not induce vomiting. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Inhalation:

Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

NOTES TO PHYSICIAN:

INGESTION: If ingested this material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.

**Medical Conditions
Aggravated
By Exposure:**

skin,

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards:

This product has been determined to be a combustible liquid per the OSHA Hazard Communication Standard and should be handled accordingly. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

Special protective equipment for firefighters:

Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Keep run-off water out of sewers and water sources.

Flash point:

130-190 F

Autoignition temperature:

637 F

Flammable limits in air - lower (%):

0.7

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500 ppm Sulfur Max

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5. FIRE FIGHTING MEASURES

Flammable limits in air - upper (%): 5.0

NFPA rating:

Health: 1

Flammability: 2

Instability: 1

Other: -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Avoid repeated and prolonged skin contact. Never siphon this product by mouth. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

- Engineering measures:** Local or general exhaust required when using at elevated temperatures that generate vapors or mists.
- Respiratory protection:** Use approved organic vapor chemical cartridge or supplied air respirators when material produces vapors that exceed permissible limits or excessive vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.
- Skin and body protection:** Neoprene, nitrile, polyvinyl alcohol (PVA), polyvinyl chloride and polyurethane gloves to prevent skin contact.
- Eye protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields.
- Hygiene measures:** No special protective clothing is normally required. Select protective clothing depending on industrial operations. Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:

Clear to Amber Liquid

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500 ppm Sulfur Max

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9. PHYSICAL AND CHEMICAL PROPERTIES:

Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Clear or Amber
Odor:	Slight Hydrocarbon
Molecular weight:	180
pH:	Neutral
Boiling point/range (5-95%):	400-640 F
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	C.A. 0.8
Density:	6.76 lbs/gal
Bulk density:	No data available.
Vapor density:	4-5
Vapor pressure:	1-10 mm Hg @ 100 F
Evaporation rate:	No data available.
Solubility:	Negligible
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.
VOC content(%):	10%
Viscosity:	1.9-3.4 @ 40 C

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.
Materials to avoid:	Strong oxidizers such as nitrates, perchlorates, chlorine, fluorine.
Conditions to avoid:	Excessive heat, sources of ignition and open flames.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Speedway No. 2 Low Sulfur Diesel 500 ppm Sulfur Max	68476-30-2	No data available	No data available	No data available

Toxicology Information:

MIDDLE DISTILLATES, PETROLEUM: Long-term repeated (lifetime) skin exposure to similar materials has been reported to result in an increase in skin tumors in laboratory rodents. The relevance of these findings to humans is not clear at this time.

MIDDLE DISTILLATES WITH CRACKED STOCKS: Light cracked distillates have been shown to be carcinogenic in animal tests and have tested positive with in vitro genotoxicity tests. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased fetal resorptions at maternally toxic doses. Dermal exposure to high concentrations resulted in severe skin irritation with weight loss and some mortality. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function.

ISOPARAFFINS: Studies in laboratory animals have shown that long-term exposure to similar materials (isoparaffins) can cause kidney damage and kidney cancer in male laboratory rats. However, in-depth research indicates that these findings are unique to the male rat, and that these effects are not relevant to humans.

NAPHTHALENE: Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from overexposure to naphthalene. Persons with Glucose 6-phosphate dehydrogenase (G6PD) deficiency are more prone to the hemolytic effects of naphthalene. Adverse effects on the kidney have been reported in persons overexposed to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect. Hemolytic anemia has been observed in laboratory animals exposed to naphthalene. Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract. Cataracts and other adverse effects on the eye have been observed in laboratory animals exposed to high levels of naphthalene. Findings from a large number of bacterial and mammalian cell mutation assays have been negative. A few studies have shown chromosomal effects (elevated levels of Sister Chromatid Exchange or chromosomal aberrations) in vitro. Naphthalene has been classified as Possibly Carcinogenic to Humans (2B) by IARC, based on findings from studies in laboratory animals.

DIESEL EXHAUST: Chronic inhalation studies of whole diesel engine exhaust in mice and rats produced a significant increase in lung tumors. Combustion of kerosine and/or diesel fuels produces gases and particulates which include carbon monoxide, carbon dioxide, oxides of nitrogen and/or sulfur and hydrocarbons. Significant exposure to carbon monoxide vapors decreases the oxygen carrying capacity of the blood and may cause tissue hypoxia via formation of carboxyhemoglobin.

TARGET ORGANS:

central nervous system, skin, respiratory system, lungs, kidney, liver, thymus, reproductive organs,

12. ECOTOXICOLOGICAL INFORMATION

Mobility:

May partition into air, soil and water.

Ecotoxicity:

Toxic to aquatic organisms.

Bioaccumulation:

Not expected to bioaccumulate in aquatic organisms.

Persistence/Biodegradation:

Readily biodegradable in the environment.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information: This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name:	Fuel Oil, No. 2
UN/Identification No:	NA 1993
Hazard Class:	3
Packing group:	III
DOT reportable quantity (lbs):	Not applicable.

Proper shipping name:	Fuel Oil, No. 2
UN/Identification No:	NA 1993
Hazard Class:	3
Packing group:	III

15. REGULATORY INFORMATION

US Federal Regulatory Information:

MSDS ID NO.: 0114SPE012

Product name: Speedway No. 2 Low Sulfur Diesel
500 ppm Sulfur Max

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US TSCA Chemical Inventory Section 8(b):

This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard:

This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Saturated Hydrocarbons	NA
Aromatic Hydrocarbons	NA
Unsaturated Hydrocarbons	NA
Naphthalene	NA

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Saturated Hydrocarbons	NA
Aromatic Hydrocarbons	NA
Unsaturated Hydrocarbons	NA
Naphthalene	= 100 lb final RQ = 45.4 kg final RQ

SARA Section 311/312 The following EPA hazard categories apply to this product:

- Acute Health Hazard
- Fire Hazard

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Saturated Hydrocarbons	None
Aromatic Hydrocarbons	None
Unsaturated Hydrocarbons	None
Naphthalene	= 0.1 % de minimis concentration

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

- Saturated Hydrocarbons
- Louisiana Right-To-Know: Not Listed
 - California Proposition 65: Not Listed
 - New Jersey Right-To-Know: Not Listed.
 - Pennsylvania Right-To-Know: Not Listed.
 - Massachusetts Right-To Know: Not Listed.
 - Florida substance List: Not Listed.
 - Rhode Island Right-To-Know: Not Listed
 - Michigan critical materials register list: Not Listed.
 - Massachusetts Extraordinarily Hazardous Substances: Not Listed

Saturated Hydrocarbons

California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Aromatic Hydrocarbons

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Unsaturated Hydrocarbons

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Naphthalene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	carcinogen, initial date 4/19/02

Saturated Hydrocarbons

New Jersey Right-To-Know: sn 1322
Pennsylvania Right-To-Know: Environmental hazard
Massachusetts Right-To Know: Present

Florida substance List: Not Listed.
Rhode Island Right-To-Know: Toxic; Flammable
Michigan critical materials register list: Not Listed.
Massachusetts Extraordinarily Hazardous Substances: Not Listed
California - Regulated Carcinogens: Not Listed
Pennsylvania RTK - Special Hazardous Substances: Not Listed
New Jersey - Special Hazardous Substances: carcinogen

New Jersey - Environmental Hazardous Substances List: SN 1322 TPQ 500 lb
Illinois - Toxic Air Contaminants Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances: = 1 lb RQ land/water
= 100 lb RQ air

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Naphthalene	B4, D2A	1 %

NOTE: Not Applicable.

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Mark S. Swanson, Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Speedway LLC does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. Speedway assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet



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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBIL SUPER 10W-30
 Product Description: Base Oil and Additives
 Product Code: 201510301015, 480202-00, 976715
 Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION
 3225 GALLOWS RD.
 FAIRFAX, VA. 22037 USA
 24 Hour Health Emergency 809-737-4411
 Transportation Emergency Phone 800-424-9300
 ExxonMobil Transportation No. 281-834-3296
 Product Technical Information 800-662-4525, 800-947-9147
 MSDS Internet Address <http://www.exxon.com>, <http://www.mobil.com>

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health: 0	Flammability: 1	Reactivity: 0
HMIS Hazard ID:	Health: 0	Flammability: 1	Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use

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adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 233C (451F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

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PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

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NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: 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. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

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GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.869
Flash Point [Method]: 233C (451F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316C (600F)
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 68.8 cSt (68.8 mm²/sec) at 40 C | 10.5 cSt (10.5 mm²/sec) at 100C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -33°C (-27°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m ³	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.

Product Name: MOBIL SUPER 10W-30

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Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.

Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

1 = NTP CARC
2 = NTP SUS

--REGULATORY LISTS SEARCHED--

3 = IARC 1
4 = IARC 2A

5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

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Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: DSL, EINECS, KECI, PICCS, TSCA

Product Name: MOBIL SUPER 10W-30
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EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	5, 18
ZINC ALKYL DITHIOPHOSPHATE	68649-42-3	15
ZINC DITHIOPHOSPHATE	68649-42-3	15

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16	OTHER INFORMATION
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N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

No revision information is available.

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Internal Use Only

MHC: 0B, 0B, 0, 0, 0, 0

PPEC: A



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DGN: 7108691XUS (1018121)

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBIL SUPER 10W-40
 Product Description: Base Oil and Additives
 Product Code: 201510301020, 480152-00, 970811
 Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION
 3225 GALLOWS RD.
 FAIRFAX, VA. 22037 USA
 24 Hour Health Emergency 609-737-4411
 Transportation Emergency Phone 800-424-9300
 ExxonMobil Transportation No. 281-834-3296
 Product Technical Information 800-662-4525, 800-947-9147
 MSDS Internet Address <http://www.exxon.com>, <http://www.mobil.com>

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
ZINC ALKYL DITHIOPHOSPHATE	68649-42-3	< 2.5%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID: Health: 0 Flammability: 1 Reactivity: 0
 HMIS Hazard ID: Health: 0 Flammability: 1 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

Product Name: MOBIL SUPER 10W-40

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SECTION 4

FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5

FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >200C (392F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

SECTION 6

ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable

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regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

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Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: 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. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

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Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
 Color: Amber
 Odor: Characteristic
 Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.87
 Flash Point [Method]: >200C (392F) [ASTM D-92]
 Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
 Autoignition Temperature: N/D
 Boiling Point / Range: N/D
 Vapor Density (Air = 1): N/D
 Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
 Evaporation Rate (n-butyl acetate = 1): N/D
 pH: N/A
 Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
 Solubility in Water: Negligible
 Viscosity: 100 cSt (100 mm²/sec) at 40 C | 14.5 cSt (14.5 mm²/sec) at 100C
 Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
 Melting Point: N/A
 Pour Point: -24°C (-11°F)
 DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m ³	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.

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Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.

Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS

3 = IARC 1
4 = IARC 2A

5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

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Biodegradation:

Base oil component – Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component – Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13

DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. **DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.**

SECTION 14

TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15

REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

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Complies with the following national/regional chemical inventory requirements:: DSL, ENCS, KECI, TSCA
 Special Cases:

Inventory	Status
ELINCS	Restrictions Apply

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
ZINC ALKYL DITHIOPHOSPHATE	68649-42-3	< 2.5%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	5, 18
ZINC ALKYL DITHIOPHOSPHATE	68649-42-3	13, 15, 17
ZINC DITHIOPHOSPHATE	68649-42-3	15

--REGULATORY LISTS SEARCHED--

- | | | | |
|---------------|------------------|-------------------|-------------|
| 1 = ACGIH ALL | 6 = TSCA 5a2 | 11 = CA P65 REPRO | 16 = MN RTK |
| 2 = ACGIH A1 | 7 = TSCA 5e | 12 = CA RTK | 17 = NJ RTK |
| 3 = ACGIH A2 | 8 = TSCA 6 | 13 = IL RTK | 18 = PA RTK |
| 4 = OSHA Z | 9 = TSCA 12b | 14 = LA RTK | 19 = RI RTK |
| 5 = TSCA 4 | 10 = CA P65 CARC | 15 = MI 293 | |

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
 No revision information is available.

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PPEC: A

DGN: 2004946XUS (1008070)

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PARTS MASTER

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE

Product Name: 15W40
 Product Class: Lubricant
 WHMIS Classification: Not controlled.

Supplier Name and Address: Aftermarket Auto Parts Alliance, Inc.
 San Antonio, TX 78258. USA

Phone: (506) 633-3732
 Emergency: (506) 648-3060

SECTION 2 - HAZARDOUS INGREDIENTS OF MATERIALS

Hazardous Ingredients	CAS#	wt%	ACGIH-TLV	LC ₅₀	LD ₅₀
None			5 mg/m ³ (oil mist)		

SECTION 3 - PHYSICAL DATA AND CHEMICAL PROPERTIES

Form:	Liquid	Vapour Pressure (mm @ 20°C):	< 0.10
Colour:	Brown	Volatile (wt%):	0
Odour:	Petroleum		
Specific Gravity @ 15°C:	0.86 - 0.90		
Solubility:	Negligible		

SECTION 4 - FIRE AND EXPLOSION HAZARD

Flammability: Yes No
 Flash Point: > 218°C (COC)

Conditions: Open flame above flash point.

Upper Flammable Limit:	Not established.	Lower Flammable Limit:	Not established.
Auto Ignition Temperature:	Not determined.	TDG Flammability Classification:	Not classified.
Sensitivity to Impact:	None.	Sensitivity to Static Discharge:	None.

Means of Extinction: Dry chemical, water spray (fog), foam or carbon dioxide.
 Hazardous Combustion Products: Hydrogen sulphide and oxides of carbon, nitrogen, sulphur and phosphorus.
 Special Procedures: Water foam may cause frothing. Use water to cool exposed containers. Use self-contained breathing apparatus for fire fighting.

SECTION 5 - REACTIVITY DATA

Stability:	This product is stable.
Hazardous Polymerisation:	Will not occur.
Conditions to avoid:	Extremely high temperatures.
Incompatibility with other substances:	Strong oxidising agents.
Hazardous decomposition products:	Thermal decomposition from high temperature or combustion will produce hydrogen sulphide and oxides of carbon, nitrogen, sulphur and phosphorus.

SECTION 6 - TOXICOLOGICAL PROPERTIES

Route of Entry: Eye Skin Contact Skin Absorption Inhalation Ingestion

Effects of Acute Exposure: Irritation to skin and eyes. Inhalation of hot oil mist or vapours may irritate the upper respiratory tract.
 Effects of Chronic Exposure: Repeated or prolonged exposure may cause dermatitis and/or oil acne. Long-term intensive exposure to oil mist may cause benign lung fibrosis. No specific toxicity data but extrapolation from similar materials indicates that this product has low oral toxicity.

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PARTS MASTER

MATERIAL SAFETY DATA SHEET

Exposure Limits: 5 mg/m³ (oil mist)
Reproductive Toxicity: Not determined.
Irritancy of Product: Slight.

Carcinogenicity: Not determined.
Teratogenicity: Not determined.
Mutagenicity: Not determined.

SECTION 7 - PREVENTATIVE AND CORRECTIVE MEASURES

Personal Protective Equipment: *Gloves:* Oil/Chemical resistant.
Eye: Chemical safety glasses or full face shield.
Respiratory: NOISH respirator if mist levels are high.
Footwear: Oil/Chemical resistant.
Clothing: Oil/Chemical resistant if repeated exposure to skin and clothing occurs.
Other:

Engineering Controls: Local exhaust at source of heated vapours.

Leak and Spill Procedure: Contain spills with dikes or absorbent material. Eliminate fire hazards. Prevent from entering sewers or water courses. Vacuum liquid or transfer absorbed material into containers. Advise authorities.

Waste Disposal: Follow local and governmental regulations. Not regulated as a hazardous waste.

Storage Requirements: Cool, dry location. Keep containers closed.

Special Shipping Information: No special requirements.

SECTION 8 - FIRST AID MEASURES

Inhalation: Remove to fresh air or give artificial respiration. If breathing is difficult, give oxygen and seek medical attention.

Ingestion: Do not induce vomiting, give two glasses of water and seek medical attention.

Eye: Flush with water for 15 minutes.

Skin: Wash contaminated area with soap and water. Clean contaminated clothing before wearing again.

General Advice: High pressure injection under skin can be serious and requires urgent medical attention.

SECTION 9 - PREPARATION DATE OF MSDS

MSDS Prepared by: Coastal Packaging Inc. **Phone:** (506) 633-3732
MSDS Date: February 14, 2007
Revision: 02

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Material Safety Data Sheet

MSDS ID NO.: 0101SPE012
Revision date: 05/25/2011

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code: SW07
Product name: Speedway SAE 30 Motor Oil
Synonym: Speedway HD 30 Motor Oil; Speedway SAE 30 Motor Oil
Chemical Family: Motor/Lube Oil
Formula: Mixture

Manufacturer:
Speedway LLC
P.O. Box 1500
Enon, OH 45501

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Motor oil is a complex mixture of highly refined lubricating oil base stocks and additives.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Speedway SAE 30 Motor Oil	Mixture	100			

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Petroleum Distillates, Solvent Dewaxed Heavy Paraffinic	64742-65-0	84-94			Mineral Oil Mist (MOM) =5 mg/m ³ TWA = 10 mg/m ³ STEL
Additives	Not specified	6-16			
Zinc Alkyl Dithiophosphate	68649-42-3	0.6-1.2			

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

MOTOR OIL IS A NON-VOLATILE AND NON-COMBUSTIBLE, AMBER COLORED LIQUID, BUT WILL IGNITE AND BURN AT ELEVATED TEMPERATURES.

Inhalation:

No acute effects expected from routine operations. Overheating of product may produce vapors which can cause respiratory irritation, dizziness and nausea.

Ingestion:

Product has a low order of acute toxicity. This is based on data from components or similar products.

Skin contact:

Prolonged and repeated liquid contact can cause dermatitis, folliculitis or oil acne.

Eye contact:

Liquid or vapor contact may result in slight eye irritation.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Speedway SAE 30 Motor Oil Mixture	NE			

Notes:

The International Agency for Research on Cancer (IARC) has determined that there is no evidence that severely solvent-refined oils are carcinogenic to experimental animals.

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Petroleum Distillates, Solvent Dewaxed Heavy Paraffinic 64742-65-0	Supplement 7 [1987], Monograph 33 [1984]			Present

4. FIRST AID MEASURES

Eye Contact:

Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Skin Contact:

Wash with soap and large amounts of water. Remove contaminated clothing. If symptoms or irritation occur, call a physician.

If product is accidentally injected into or under the skin, regardless of wound size or initial absence of symptoms, the individual should be evaluated immediately by a physician as a surgical emergency.

Ingestion:

Not expected to be acutely toxic. If large amounts are swallowed, immediately call a physician.

Inhalation:

If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). If symptoms or irritation occur with any exposure, call a physician.

NOTES TO PHYSICIAN:

No data available.

**Medical Conditions
Aggravated
By Exposure:**

Skin contact could aggravate an existing skin disorder or dermatitis condition.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards:

This material is not combustible per the OSHA Hazard Communication Standard, but will ignite and burn at elevated temperatures.

Special protective equipment for firefighters:

Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Use water spray to cool exposed surfaces from as far a distance as possible.

Flash point:

>400 F, >204.5 C

Autoignition temperature:

No data available.

Flammable limits in air - lower (%):

Not applicable.

Flammable limits in air - upper (%):

Not applicable.

NFPA rating:

Health: 1
Flammability: 1
Instability: 0
Other: -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

Handling: Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues. Do not pressurize or expose to heat, open flames, strong oxidizers or other sources of ignition.

Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

- Engineering measures:** Local or general exhaust required when using at elevated temperatures that generate vapors or mists.
- Respiratory protection:** Not required under normal conditions and adequate ventilation. Approved organic vapor chemical cartridge or supplied air respirators should be worn when significant vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.
- Skin and body protection:** Use chemical resistant gloves such as neoprene, nitrile, or PVA to prevent prolonged or repeated skin contact.
- Eye protection:** No special eye protection is normally required.
- Hygiene measures:** No data available.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Amber Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Amber
Odor:	Hydrocarbon
Molecular weight:	Not determined.
pH:	Neutral
Boiling point/range (5-95%):	No data available.
Melting point/range:	No data available.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Decomposition temperature:	Not applicable.
Specific gravity:	0.90 @ 60 F
Density:	7.41 lbs/gallon @ 60 F
Bulk density:	No data available.
Vapor density:	No data available.
Vapor pressure:	Not determined.
Evaporation rate:	No data available.
Solubility:	Not determined
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	>4.9
VOC content(%):	No data available.
Viscosity:	10.0 - 12.0 cSt @ 100 C

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Carbon monoxide, carbon dioxide, hydrogen sulfide, oxides of sulfur, oxides of nitrogen, oxides of phosphorous, oxides of magnesium, boric oxide, calcium oxide and zinc oxide.
Materials to avoid:	Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid:	No data available.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Speedway SAE 30 Motor Oil	Mixture	LD50 = 2.14- >4 mg/l [Rat]	LD50 >2 gm/kg [Rabbit]	LD50 > 5 ml/kg [Rat]

Toxicology Information:

Based on data from components this product is considered to have a low order of acute oral and dermal toxicity. Chronic skin painting studies with severely solvent refined neutral oils did not produce evidence of skin cancer in mice.

This product contains approximately 0-1.5% of a zinc alkyl dithiophosphate (ZDDP) additive. ZDDP has been found to have weak mutagenic activity in cultured cells. Repeated dermal exposures of ZDDP produced severe skin irritation, significant weight loss and testicular atrophy in male rabbits but not male rats at high concentrations. Subsequent research showed that the testicular effect was due to the severe stress and weight loss as seen with other caustic materials and not a direct effect of ZDDP. The concentration of ZDDP in this product is significantly lower than exposure levels that produced these effects in rabbits.

Used motor oil applied to the skin of rabbits at doses of 8 ml/kg/day, 5 days/wk, for two weeks, produced significant weight loss and skin irritation but no mortality. Used motor oil was found to produce skin tumors in mice in lifetime skin painting studies. Solvent extracts of used motor oils were found to be positive in the Ames mutagenicity test.

12. ECOTOXICOLOGICAL INFORMATION

Mobility:

No data available.

Ecotoxicity:

No data available.

Bioaccumulation:

No data available.

Persistence/Biodegradation:

Water accomated fractions (WAF) of highly refined base oils did not produce acute toxicity in fish (100-1000 mg/l), fresh water algae (500 mg/l) or daphnia (10,000 mg/l) in 48-96 hour LC50 studies.

Used motor and/or lube oils can be toxic to birds and fish.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This material as supplied and by itself, when discarded or disposed of, is not an EPA RCRA hazardous waste according to federal regulations. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

Don't pollute. Conserve resources. Send used product to recycling center. Dispose of cleanup materials in accordance with applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information: This material when transported via US commerce is NOT REGULATED by DOT regulations.

Packing group: Not applicable.

DOT reportable quantity (lbs): Not applicable.

15. REGULATORY INFORMATION

US Federal Regulatory Information:

MSDS ID NO.: 0101SPE012

Product name: Speedway SAE 30 Motor Oil

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US TSCA Chemical Inventory Section 8(b):

This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard:

This product has been evaluated and determined not to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Petroleum Distillates, Solvent Dewaxed Heavy Paraffinic	NA
Additives	NA
Zinc Alkyl Dithiophosphate	NA

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Petroleum Distillates, Solvent Dewaxed Heavy Paraffinic	NA
Additives	NA
Zinc Alkyl Dithiophosphate	NA

SARA Section 311/312 The following EPA hazard categories apply to this product:

None

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Petroleum Distillates, Solvent Dewaxed Heavy Paraffinic	None
Additives	None
Zinc Alkyl Dithiophosphate	= 1.0 % de minimis concentration

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Petroleum Distillates, Solvent Dewaxed Heavy Paraffinic

- Louisiana Right-To-Know: Not Listed
- California Proposition 65: Not Listed
- New Jersey Right-To-Know: Not Listed.
- Pennsylvania Right-To-Know: Not Listed.
- Massachusetts Right-To Know: Not Listed.
- Florida substance List: Not Listed.
- Rhode Island Right-To-Know: Not Listed
- Michigan critical materials register list: Not Listed.
- Massachusetts Extraordinarily Hazardous Substances: Not Listed
- California - Regulated Carcinogens: Not Listed
- Pennsylvania RTK - Special Hazardous Substances: Not Listed
- New Jersey - Special Hazardous Substances: carcinogen

Petroleum Distillates, Solvent Dewaxed Heavy Paraffinic

New Jersey - Environmental Hazardous Substances List: Not Listed
Illinois - Toxic Air Contaminants Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances: Not Listed

Additives

Louisiana Right-To-Know: Not Listed
California Proposition 65: Not Listed
New Jersey Right-To-Know: Not Listed.
Pennsylvania Right-To-Know: Not Listed.
Massachusetts Right-To Know: Not Listed.
Florida substance List: Not Listed.
Rhode Island Right-To-Know: Not Listed
Michigan critical materials register list: Not Listed.
Massachusetts Extraordinarily Hazardous Substances: Not Listed
California - Regulated Carcinogens: Not Listed
Pennsylvania RTK - Special Hazardous Substances: Not Listed
New Jersey - Special Hazardous Substances: Not Listed
New Jersey - Environmental Hazardous Substances List: Not Listed
Illinois - Toxic Air Contaminants Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances: Not Listed

Zinc Alkyl Dithiophosphate

Louisiana Right-To-Know: Not Listed
California Proposition 65: Not Listed
New Jersey Right-To-Know: sn 3012
Pennsylvania Right-To-Know: Environmental hazard
Massachusetts Right-To Know: Not Listed.
Florida substance List: Not Listed.
Rhode Island Right-To-Know: Not Listed
Michigan critical materials register list: = 100 lb Annual usage threshold
Massachusetts Extraordinarily Hazardous Substances: Not Listed
California - Regulated Carcinogens: Not Listed
Pennsylvania RTK - Special Hazardous Substances: Not Listed
New Jersey - Special Hazardous Substances: Not Listed
New Jersey - Environmental Hazardous Substances List: SN 3012 TPQ 500 lb (Category Code N982. Includes any unique chemical substance that contains the named metal as part of that chemical structure)
Illinois - Toxic Air Contaminants Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances: Not Listed

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

NOTE: Not Applicable.

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Mark S. Swanson, Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Speedway LLC does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. Speedway assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet



Material Safety Data Sheet

MSDS ID NO.: 0127SPE012
Revision date: 05/25/2011

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code: SW02
Product name: Speedway All Season 10W-40 Motor Oil
Synonym: 10W-40 Motor Oil; All Season 10W-40 Motor Oil, Speedway
Chemical Family: Motor/Lube Oil
Formula: Mixture

Manufacturer:
Speedway LLC
P.O. Box 1500
Enon, OH 45501

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Motor oil is a complex mixture of highly refined lubricating oil base stocks and additives.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Speedway All Season 10W-40 Motor Oil	Mixture	100			

Component information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Distillates, Hydrotreated Heavy Paraffinic	64742-54-7	92-95			
Additives	Not specified	5-8			
Zinc Alkyl Dithiophosphate	68649-42-3	0.7-1.0			

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

MOTOR OIL IS A NON-VOLATILE AND NON-COMBUSTIBLE, AMBER COLORED LIQUID, BUT WILL IGNITE AND BURN AT ELEVATED TEMPERATURES.

Inhalation:

No acute effects expected from routine operations. Overheating of product may produce vapors which can cause respiratory irritation, dizziness and nausea.

Ingestion:

Product has a low order of acute toxicity. This is based on data from components or similar products.

Skin contact:

Prolonged or repeated liquid contact can cause dermatitis, folliculitis or oil acne.

Eye contact:

Liquid or vapor contact may result in slight eye irritation.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Speedway All Season 10W-40 Motor Oil Mixture	NE			

Notes:

The International Agency for Research on Cancer (IARC) has determined that there is no evidence that severely solvent-refined oils are carcinogenic to experimental animals.

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Distillates, Hydrotreated Heavy Paraffinic 64742-54-7	Supplement 7 [1987], Monograph 33 [1984]			Present

4. FIRST AID MEASURES

Eye Contact:

Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Skin Contact:

Wash with soap and large amounts of water. Remove contaminated clothing. If symptoms or irritation occur, call a physician.

If product is accidentally injected into or under the skin, regardless of wound size or initial absence of symptoms, the individual should be evaluated immediately by a physician as a surgical emergency.

Ingestion:

Not expected to be acutely toxic. If large amounts are swallowed, immediately call a physician.

Inhalation:

If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician. If symptoms or irritation occur with any exposure, call a physician.

NOTES TO PHYSICIAN:

No data available.

Medical Conditions

Aggravated

By Exposure:

Skin contact could aggravate an existing skin disorder or dermatitis condition.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards:

This material is not combustible per the OSHA Hazard Communication Standard, but will ignite and burn at elevated temperatures.

Special protective equipment for firefighters:

Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Use water spray to cool exposed surfaces from as far a distance as possible. Keep run-off water out of sewers and water sources.

Flash point:

>435 F, >223.8 C (COC)

Autoignition temperature:

No data available.

Flammable limits in air - lower (%):

No data available.

Flammable limits in air - upper (%):

No data available.

NFPA rating:

Health: 1

Flammability: 1

Instability: 0

Other: -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Advise local and state emergency services agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues. Do not pressurize or expose to heat, open flames, strong oxidizers or other sources of ignition.

Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

- Engineering measures:** Local or general exhaust required when using at elevated temperatures that generate vapors or mists.
- Respiratory protection:** Not required under normal conditions and adequate ventilation. Approved organic vapor chemical cartridge or supplied air respirators should be worn for exposures to any components exceeding the TWA or STEL. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.
- Skin and body protection:** Use chemical resistant gloves such as neoprene, nitrile, or PVA to prevent prolonged or repeated skin contact.
- Eye protection:** No special eye protection is normally required.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Amber Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Amber
Odor:	Hydrocarbon
Molecular weight:	Not determined.
pH:	Neutral
Boiling point/range (5-95%):	>425 F, > 218.3 C

9. PHYSICAL AND CHEMICAL PROPERTIES:

Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	0.881 @ 60 F
Density:	7.34 lbs/gal @ 60 F
Bulk density:	No data available.
Vapor density:	No data available.
Vapor pressure:	Not determined.
Evaporation rate:	No data available.
Solubility:	Not determined
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	>4.9
VOC content(%):	No data available.
Viscosity:	96.5 cSt @ 40 C 14.0 cSt @ 100 C

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Carbon monoxide, carbon dioxide, hydrogen sulfide, oxides of sulfur, oxides of nitrogen, oxides of zinc, aldehydes and hydrocarbons., Thermal decomposition may produce hydrogen sulfide and other sulfur-containing gases at temperatures greater than 150 F.
Materials to avoid:	Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid:	Heat and open flames.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Speedway All Season 10W-40 Motor Oil	Mixture	LD50 = 2.18 to > 4 mg/l [Rat]	LD50 > 2 gm/kg [Rabbit]	LD50 > 5 ml/kg [Rat]

Toxicology Information:

Based on data from components this product is considered to have a low order of acute oral and dermal toxicity. Chronic skin painting studies with severely solvent refined neutral oils did not produce evidence of skin cancer in mice.

This product contains approximately 0-1.5% of a zinc alkyl dithiophosphate (ZDDP) additive. ZDDP has been found to have weak mutagenic activity in cultured cells. Repeated dermal exposures of ZDDP produced severe skin irritation, significant weight loss and testicular atrophy in male rabbits but not male rats at high concentrations. Subsequent research showed that the testicular effect was due to the severe stress and weight loss as seen with other caustic materials and not a direct effect of ZDDP. The concentration of ZDDP in this product is significantly lower than exposure levels that produced these effects in rabbits.

Used motor oil applied to the skin of rabbits at doses of 8 ml/kg/day, 5 days/wk, for two weeks, produced significant weight loss and skin irritation but no mortality. Used motor oil was found to produce skin tumors in mice in lifetime skin painting studies. Solvent extracts of used motor oils were found to be positive in the Ames mutagenicity test.

12. ECOTOXICOLOGICAL INFORMATION

Mobility:

No data available.

Ecotoxicity:

No data available.

Bioaccumulation:

No data available.

Persistence/Biodegradation:

Water accomated fractions (WAF) of highly refined base oils did not produce acute toxicity in fish (100-1000 mg/l), fresh water algae (500 mg/l) or daphnia (10,000 mg/l) in 48-96 hour LC50 studies.

Used motor and/or lube oils can be toxic to birds and fish.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This material as supplied and by itself, when discarded or disposed of, is not an EPA RCRA hazardous waste according to federal regulations. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

Don't pollute. Conserve resources. Send used product to recycling center. Dispose of cleanup materials in accordance with applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

MSDS ID NO.: 0127SPE012

Product name: Speedway All Season 10W-40
Motor Oil

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14. TRANSPORT INFORMATION

DOT:

Transport Information: This material when transported via US commerce is NOT REGULATED by DOT regulations.

Packing group: Not applicable.

DOT reportable quantity (lbs): Not applicable.

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined not to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Distillates, Hydrotreated Heavy Paraffinic	NA
Additives	NA
Zinc Alkyl Dithiophosphate	NA

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Distillates, Hydrotreated Heavy Paraffinic	NA
Additives	NA
Zinc Alkyl Dithiophosphate	NA

SARA Section 311/312 The following EPA hazard categories apply to this product:

None

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Distillates, Hydrotreated Heavy Paraffinic	None

Name	CERCLA/SARA 313 Emission reporting:
Additives	None
Zinc Alkyl Dithiophosphate	= 1.0 % de minimis concentration

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Distillates, Hydrotreated Heavy Paraffinic

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	carcinogen
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Additives

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Zinc Alkyl Dithiophosphate

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 3012
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed

Distillates, Hydrotreated Heavy Paraffinic	
Michigan critical materials register list:	= 100 lb Annual usage threshold
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	SN 3012 TPQ 500 lb (Category Code N982. Includes any unique chemical substance that contains the named metal as part of that chemical structure)
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

NOTE: Not Applicable.

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Mark S. Swanson, Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Speedway LLC does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. Speedway assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet



Material Safety Data Sheet

MSDS ID NO.: 0119SPE012
Revision date: 05/25/2011

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code: SW03
Product name: Speedway 15W-40 Heavy Duty Diesel Motor Oil
Synonym: Speedway 15W-40 HD Diesel Motor Oil; Speedway 15W-40 Motor Oil; 15W-40 Speedway Motor Oil
Chemical Family: Motor/Lube Oil
Formula: Mixture

Manufacturer:
Speedway LLC
P.O. Box 1500
Enon, OH 45501

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Motor oil is a complex mixture of highly refined lubricating oil base stocks and additives.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Speedway 15W-40 HD Diesel Motor Oil	Mixture	100			

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Distillates, Petroleum Solvent- Refined Heavy Paraffinic	64741-88-4	88-93			Mineral Oil Mist (MOM) =5 mg/m ³ TWA = 10 mg/m ³ STEL
Additives	Not specified	7-11			
Zinc Dialkyl Dithiophosphate	68457-79-4	1.2-1.5			

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

MOTOR OIL IS A NON-VOLATILE AND NON-COMBUSTIBLE, AMBER COLORED LIQUID, BUT WILL IGNITE AND BURN AT ELEVATED TEMPERATURES.

Inhalation:

No acute effects expected from routine operations. Overheating of product may produce vapors which can cause respiratory irritation, dizziness and nausea.

Ingestion:

Product has a low order of acute toxicity. This is based on data from components or similar products.

Skin contact:

Prolonged or repeated liquid contact can cause dermatitis, folliculitis or oil acne.

Eye contact:

Liquid or vapor contact may result in slight eye irritation.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Speedway 15W-40 HD Diesel Motor Oil Mixture	NE			

Notes:

The International Agency for Research on Cancer (IARC) has determined that there is no evidence that severely solvent-refined oils are carcinogenic to experimental animals.

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Distillates, Petroleum Solvent- Refined Heavy Paraffinic 64741-88-4	Supplement 7 [1987], Monograph 33 [1984]			Present

4. FIRST AID MEASURES

Eye Contact:

Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Skin Contact:

Wash with soap and large amounts of water. Remove contaminated clothing. If symptoms or irritation occur, call a physician.

If product is accidentally injected into or under the skin, regardless of wound size or initial absence of symptoms, the individual should be evaluated immediately by a physician as a surgical emergency.

Ingestion:

Not expected to be acutely toxic. If large amounts are swallowed, immediately call a physician.

Inhalation:

If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician. If symptoms or irritation occur with any exposure, call a physician.

NOTES TO PHYSICIAN:

No data available.

**Medical Conditions
Aggravated
By Exposure:**

Skin contact could aggravate an existing skin disorder or dermatitis condition.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards:

This material is not combustible per the OSHA Hazard Communication Standard, but will ignite and burn at elevated temperatures.

Special protective equipment for firefighters:

Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Use water spray to cool exposed surfaces from as far a distance as possible. Keep run-off water out of sewers and water sources.

Flash point:

>425 F, >218.3 C

Autoignition temperature:

No data available.

Flammable limits in air - lower (%):

No data available.

Flammable limits in air - upper (%):

No data available.

NFPA rating:

Health: 1

Flammability: 1

Instability: 0

Other: -

6. ACCIDENTAL RELEASE MEASURES**Personal precautions:**

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Advise local and state emergency services agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE**Handling:**

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues. Do not pressurize or expose to heat, open flames, strong oxidizers or other sources of ignition.

Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**PERSONAL PROTECTIVE EQUIPMENT**

- Engineering measures:** Local or general exhaust required when using at elevated temperatures that generate vapors or mists.
- Respiratory protection:** Not required under normal conditions and adequate ventilation. Approved organic vapor chemical cartridge or supplied air respirators should be worn for exposures to any components exceeding the TWA or STEL. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.
- Skin and body protection:** Use chemical resistant gloves such as neoprene, nitrile, or PVA to prevent prolonged or repeated skin contact.
- Eye protection:** No special eye protection is normally required.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Amber Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Amber
Odor:	Hydrocarbon
Molecular weight:	Not determined.
pH:	Neutral
Boiling point/range (5-95%):	>425 F, >218.3 C

9. PHYSICAL AND CHEMICAL PROPERTIES:

Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	0.890 @ 60 F
Density:	7.44 lbs/gal @ 60 F
Bulk density:	No data available.
Vapor density:	No data available.
Vapor pressure:	Not determined.
Evaporation rate:	No data available.
Solubility:	Not determined
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	>4.9
VOC content(%):	No data available.
Viscosity:	118.1 cSt @ 40 C 15.0 cSt @ 100 C

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Carbon monoxide and carbon dioxide, aldehydes, hydrocarbons., Thermal decomposition may produce hydrogen sulfide and other sulfur-containing gases at temperatures greater than 150 F.
Materials to avoid:	Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid:	Heat and open flames.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Speedway 15W-40 HD Diesel Motor Oil	Mixture	LD50 = 2.18 to >4 mg/l [Rat]	LD50 > 2 gm/kg [Rabbit]	LD50 > 5 ml/kg [Rat]

Toxicology Information:

Based on data from components this product is considered to have a low order of acute oral and dermal toxicity. Chronic skin painting studies with severely solvent refined neutral oils did not produce evidence of skin cancer in mice.

This product contains approximately 0-1.5% of a zinc alkyl dithiophosphate (ZDDP) additive. ZDDP has been found to have weak mutagenic activity in cultured cells. Repeated dermal exposures of ZDDP produced severe skin irritation, significant weight loss and testicular atrophy in male rabbits but not male rats at high concentrations. Subsequent research showed that the testicular effect was due to the severe stress and weight loss as seen with other caustic materials and not a direct effect of ZDDP. The concentration of ZDDP in this product is significantly lower than exposure levels that produced these effects in rabbits.

Used motor oil applied to the skin of rabbits at doses of 8 ml/kg/day, 5 days/wk, for two weeks, produced significant weight loss and skin irritation but no mortality. Used motor oil was found to produce skin tumors in mice in lifetime skin painting studies. Solvent extracts of used motor oils were found to be positive in the Ames mutagenicity test.

12. ECOTOXICOLOGICAL INFORMATION

Mobility:

No data available.

Ecotoxicity:

No data available.

Bioaccumulation:

No data available.

Persistence/Biodegradation:

Water accomated fractions (WAF) of highly refined base oils did not produce acute toxicity in fish (100-1000 mg/l), fresh water algae (500 mg/l) or daphnia (10,000 mg/l) in 48-96 hour LC50 studies.

Used motor and/or lube oils can be toxic to birds and fish.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This material as supplied and by itself, when discarded or disposed of, is not an EPA RCRA hazardous waste according to federal regulations. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

Don't pollute. Conserve resources. Send used product to recycling center. Dispose of cleanup materials in accordance with applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

MSDS ID NO.: 0119SPE012

Product name: Speedway 15W-40 Heavy Duty Diesel Motor Oil

Page 6 of 9

14. TRANSPORT INFORMATION

DOT:

Transport Information: This material when transported via US commerce is NOT REGULATED by DOT regulations.

Packing group: Not applicable.

DOT reportable quantity (lbs): Not applicable.

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined not to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Distillates, Petroleum Solvent- Refined Heavy Paraffinic	NA
Additives	NA
Zinc Dialkyl Dithiophosphate	NA

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Distillates, Petroleum Solvent- Refined Heavy Paraffinic	NA
Additives	NA
Zinc Dialkyl Dithiophosphate	NA

SARA Section 311/312 The following EPA hazard categories apply to this product:

None

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Distillates, Petroleum Solvent- Refined Heavy Paraffinic	None

Name	CERCLA/SARA 313 Emission reporting:
Additives	None
Zinc Dialkyl Dithiophosphate	= 1.0 % de minimis concentration

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Distillates, Petroleum Solvent-Refined Heavy Paraffinic

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	carcinogen
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Additives

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Zinc Dialkyl Dithiophosphate

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 3012
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed

Distillates, Petroleum Solvent-Refined Heavy Paraffinic

Michigan critical materials register list:	= 100 lb Annual usage threshold
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	SN 3012 TPQ 500 lb (Category Code N982. Includes any unique chemical substance that contains the named metal as part of that chemical structure)
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

NOTE: Not Applicable.

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Mark S. Swanson, Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Speedway LLC does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. Speedway assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet



Material Safety Data Sheet

MSDS ID NO.: 0121SPE012
Revision date: 05/25/2011

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code: SW06
Product name: Speedway Dexron-III/Mercon Automatic Transmission Fluid
Synonym: Speedway Dexron-III Automatic Transmission Fluid; Speedway Dexron-III/Mercon Automatic Transmission Fluid; Speedway Dexron ATF; Speedway Mercon ATF
Chemical Family: Motor/Lube Oil
Formula: Mixture

Manufacturer:
Speedway LLC
P.O. Box 1500
Enon, OH 45501

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Automatic Transmission Fluid (ATF) is a complex mixture of highly refined lubricating oil base stocks and additives.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Speedway Dexron-III/Mercon Automatic Transmission Fluid	Mixture	100			

Component information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Solvent Refined, Hydrotreated Heavy Paraffinic Distillate	64742-54-7	93-95			Mineral Oil Mist (MOM) = 5 mg/m ³ TWA = 10 mg/m ³ STEL
Additives	Not specified	5-7			

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

AUTOMATIC TRANSMISSION FLUID IS A NON-VOLATILE AND NON-COMBUSTIBLE, RED COLORED LIQUID, BUT WILL IGNITE AND BURN AT ELEVATED TEMPERATURES.

Inhalation:

No acute effects expected from routine operations. Overheating of product may produce vapors which can cause respiratory irritation, dizziness and nausea.

Ingestion:

Product has a low order of acute toxicity. This is based on data from components or similar products.

Skin contact:

Prolonged or repeated liquid contact can cause dermatitis, folliculitis or oil acne.

Eye contact:

Liquid or vapor contact may result in slight eye irritation.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Speedway Dexron-III/Mercon Automatic Transmission Fluid Mixture	NE			

Notes:

The International Agency for Research on Cancer (IARC) has determined that there is no evidence that severely solvent-refined oils are carcinogenic to experimental animals.

Component information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Solvent Refined, Hydrotreated Heavy Paraffinic Distillate 64742-54-7	Supplement 7 [1987], Monograph 33 [1984]			Present

4. FIRST AID MEASURES

Eye Contact:

Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Skin Contact:

Wash with soap and large amounts of water. Remove contaminated clothing. If symptoms or irritation occur, call a physician.

If product is accidentally injected into or under the skin, regardless of wound size or initial absence of symptoms, the individual should be evaluated immediately by a physician as a surgical emergency.

Ingestion:

Not expected to be acutely toxic. If large amounts are swallowed, immediately call a physician.

Inhalation:

If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician. If symptoms or irritation occur with any exposure, call a physician.

NOTES TO PHYSICIAN:

No data available.

**Medical Conditions
Aggravated
By Exposure:**

Skin contact could aggravate an existing skin disorder or dermatitis condition.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards:

This material is not combustible per the OSHA Hazard Communication Standard, but will ignite and burn at elevated temperatures.

Special protective equipment for firefighters:

Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Use water spray to cool exposed surfaces from as far a distance as possible. Keep run-off water out of sewers and water sources.

Flash point:

>365 F, >185 C (COC)

Autoignition temperature:

No data available.

Flammable limits in air - lower (%):

No data available.

Flammable limits in air - upper (%):

No data available.

NFPA rating:

Health: 1

Flammability: 1

Instability: 0

Other: -

6. ACCIDENTAL RELEASE MEASURES**Personal precautions:**

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Advise local and state emergency services agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE**Handling:**

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues. Do not pressurize or expose to heat, open flames, strong oxidizers or other sources of ignition.

Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**PERSONAL PROTECTIVE EQUIPMENT**

- Engineering measures:** Local or general exhaust required when using at elevated temperatures that generate vapors or mists.
- Respiratory protection:** Not required under normal conditions and adequate ventilation. Approved organic vapor chemical cartridge or supplied air respirators should be worn when significant vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.
- Skin and body protection:** Use chemical resistant gloves such as neoprene, nitrile, or PVA to prevent prolonged or repeated skin contact.
- Eye protection:** No special eye protection is normally required.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Red Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Red
Odor:	Hydrocarbon
Molecular weight:	Not determined.
pH:	Neutral
Boiling point/range (5-95%):	No data available.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	0.875 @ 60 F
Density:	7.29 lbs/gal @ 60 F
Bulk density:	No data available.
Vapor density:	No data available.
Vapor pressure:	Not determined.
Evaporation rate:	No data available.
Solubility:	Not determined
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	>4.9
VOC content(%):	No data available.
Viscosity:	36.1 cSt @ 40 C 7.7 cSt @ 100 C

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Carbon monoxide and carbon dioxide, aldehydes, hydrocarbons.
Materials to avoid:	Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid:	Heat and open flames.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Speedway Dexron-III/Mercon Automatic Transmission Fluid	Mixture	LD50 = 2.18 to > 4 mg/l [Rat]	LD50 >2 gm/kg [Rabbit]	LD50 > 5 ml/kg [Rat]

Toxicology Information:

Based on data from components this product is considered to have a low order of acute oral and dermal toxicity. Chronic skin painting studies with severely solvent refined neutral oils did not produce evidence of skin cancer in mice.

12. ECOTOXICOLOGICAL INFORMATION

Mobility:

No data available.

Ecotoxicity:

No data available.

Bioaccumulation:

No data available.

Persistence/Biodegradation:

Water accomated fractions (WAF) of highly refined base oils did not produce acute toxicity in fish (100-1000 mg/l), fresh water algae (500 mg/l) or daphnia (10,000 mg/l) in 48-96 hour LC50 studies.

Used motor and/or lube oils can be toxic to birds and fish.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This material as supplied and by itself, when discarded or disposed of, is not an EPA RCRA hazardous waste according to federal regulations. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

Don't pollute. Conserve resources. Send used product to recycling center. Dispose of cleanup materials in accordance with applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information: This material when transported via US commerce is NOT REGULATED by DOT regulations.

Packing group: Not applicable.

DOT reportable quantity (lbs): Not applicable.

15. REGULATORY INFORMATION

US Federal Regulatory Information:

MSDS ID NO.: 0121SPE012

Product name: Speedway Dexron-III/Mercon Automatic Transmission Fluid

Page 6 of 8

US TSCA Chemical Inventory Section 8(b):

This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard:

This product has been evaluated and determined not to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302:

This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Solvent Refined, Hydrotreated Heavy Paraffinic Distillate	NA
Additives	NA

SARA Section 304:

This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Solvent Refined, Hydrotreated Heavy Paraffinic Distillate	NA
Additives	NA

SARA Section 311/312

The following EPA hazard categories apply to this product:

None

SARA Section 313:

This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Solvent Refined, Hydrotreated Heavy Paraffinic Distillate	None
Additives	None

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Solvent Refined, Hydrotreated Heavy Paraffinic Distillate

- Louisiana Right-To-Know: Not Listed
- California Proposition 65: Not Listed
- New Jersey Right-To-Know: Not Listed.
- Pennsylvania Right-To-Know: Not Listed.
- Massachusetts Right-To Know: Not Listed.
- Florida substance List: Not Listed.
- Rhode Island Right-To-Know: Not Listed
- Michigan critical materials register list: Not Listed.
- Massachusetts Extraordinarily Hazardous Substances: Not Listed
- California - Regulated Carcinogens: Not Listed
- Pennsylvania RTK - Special Hazardous Substances: Not Listed
- New Jersey - Special Hazardous Substances: carcinogen

Solvent Refined, Hydrotreated Heavy Paraffinic Distillate

New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Additives

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Canadian Regulatory Information:

Canada DSL/NDL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

NOTE: Not Applicable.

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Mark S. Swanson, Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Speedway LLC does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. Speedway assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet



Date:
Supercedes:

20 October 2010
15 October 2007

MATERIAL SAFETY DATA SHEET

IN CASE OF EMERGENCY CALL CHEMTREC AT 1-800-424-9300

1. PRODUCT IDENTIFICATION AND COMPANY IDENTIFICATION:

Product Name: **GOJO® FAST WIPES® HAND CLEANING TOWELS**

Company Name & Address: **GOJO Industries, Inc.
One GOJO Plaza, Suite 500
Akron, OH 44311**

Emergency Phone: **1-800-424-9300 CHEMTREC**

Non-Emergency Phone: **(330) 255-6000**

MSDS Request Phone: **(330) 255-6000 x8804**

2. INFORMATION ON INGREDIENTS:

HAZARDOUS INGREDIENTS	CAS NUMBER	OSHA PEL	ACGIH TLV	% RANGE
Alcohol	64-17-5	1000 ppm	1000 ppm	<5
Isopropyl Alcohol	67-63-0	400 ppm	200 ppm	<0.5

Other ingredient(s) with notification requirements:	CAS NUMBER	List
Alcohol	64-17-5	MA 1; NJ 1S; PA 1; CN 2
Isopropyl Alcohol	67-63-0	MA 1; NJ 1S; PA 1; CN 2
Limonene	5989-27-5	NJ; CN 1

3. HAZARDS IDENTIFICATION:

EMERGENCY OVERVIEW

When used according to instructions, the product applicable to this MSDS is safe and presents no immediate or long-term health hazard. However, abnormal entry routes, such as gross ingestion, may require immediate medical attention.

Potential Health Effects:

HMIS: Health 1 Flammability 2 Reactivity 0 Personal Protection None

Eye Contact: May cause eye irritation.

Skin Contact: No irritation or reaction expected.

Inhalation: Not applicable.

Ingestion: May cause upset stomach, nausea (Abnormal entry route).

Carcinogenicity: Not listed as a carcinogen by NTP, IARC, OSHA or ACGIH.

4. FIRST AID MEASURES:

Eye Contact: Do not rub eyes. Flush eyes thoroughly with water for 15 minutes. If condition worsens or irritation persists, contact physician.

Skin Contact: Not applicable.

Inhalation: Not applicable.

Ingestion: Do not induce vomiting. Contact a physician or Poison Control Center.

5. FIRE FIGHTING MEASURES:NFPA: Health 1 Fire 2 Reactivity 0

Flashpoint °F/°C (PMCC method): Not determined.

Unusual Fire and Explosion Hazards: None known.

Special Fire Fighting Procedures: None known.

Extinguishing Media: X Water Fog X Alcohol Foam X CO₂ X Dry Chemical Other**6. ACCIDENTAL RELEASE MEASURES:**

No special requirements. Water clean up and rinse. CAUTION – WILL CAUSE SLIPPERY SURFACES.

7. HANDLING AND STORAGE:

Store at normal room temperature away from reach of small children. Keep containers sealed. Use older containers first. Avoid freezing conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Eye Protection: None required under normal conditions.

Skin Protection: None required under normal conditions.

Respiratory Protection: None required under normal conditions.

Ventilation: None required under normal conditions.

Protective Equipment or Clothing: None required under normal conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance and Odor Towelette impregnated with orange fragranced liquid

pH (undiluted): 7.5 –9.2 (liquid portion)

VOC , %: <8% (liquid portion)

10. STABILITY AND REACTIVITY:

Stable/Non reactive product.

11. TOXICOLOGICAL INFORMATION:

No acute or chronic toxic effects expected when used according to directions.

12. ECOLOGICAL CONSIDERATIONS:

No ecological or special considerations when used according to directions. Not considered environmentally harmful from normal dilution, expected usage and typical drainage to sewers, septic systems and treatment plants.

13. DISPOSAL CONSIDERATIONS:

No special considerations when disposed according to local, state and Federal regulations.

14. TRANSPORT INFORMATION:

Not classified as a hazardous material.

15. REGULATORY AND OTHER INFORMATION:

TSCA: All ingredients are listed or exempt per reference 15 USC 2602 (2)(B)(iv).

Complies with current FDA regulations for cosmetic and/or over-the-counter drug products.

WHMIS: Not controlled

Notice: The information herein is based on data considered to be accurate as of the date of preparation of this material safety data sheet. However, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the foregoing data and safety information. The user assumes all liability for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.



Date:
Supercedes:

27 April 2011
22 February 2011

MATERIAL SAFETY DATA SHEET

IN CASE OF EMERGENCY CALL CHEMTREC AT 1-800-424-9300

1. PRODUCT IDENTIFICATION AND COMPANY IDENTIFICATION:

Product Name: **GOJO® NATURAL* ORANGE™ PUMICE HAND CLEANER**

Company Name & Address: GOJO Industries, Inc.
One GOJO Plaza, Suite 500
Akron, OH 44311

Emergency Phone: **1-800-424-9300 CHEMTREC**

Non-Emergency Phone: (330) 255-6000

MSDS Request Phone: (330) 255-6000 x8804

2. INFORMATION ON INGREDIENTS:

HAZARDOUS INGREDIENTS	CAS NUMBER	OSHA PEL	ACGIH TLV	% RANGE
Petroleum Distillates (vapor)	64742-47-8	---	200 mg/m3	< 10%

Other ingredient(s) with notification requirements:	CAS NUMBER	List
Petroleum Distillates (vapor)	64742-47-8	MA 1; NJ 1; PA 1

3. HAZARDS IDENTIFICATION:

EMERGENCY OVERVIEW

When used according to instructions, the product applicable to this MSDS is safe and presents no immediate or long-term health hazard. However, abnormal entry routes, such as gross ingestion, may require immediate medical attention.

Potential Health Effects:

HMIS: Health 1 Flammability 1 Reactivity 0 Personal Protection None

Eye Contact: May cause eye irritation.
 Skin Contact: No irritation or reaction expected.
 Inhalation: Not applicable.
 Ingestion: May cause upset stomach, nausea (Abnormal entry route).
 Carcinogenicity: Not listed as a carcinogen by NTP, IARC, OSHA or ACGIH.

4. FIRST AID MEASURES:

Eye Contact: Do not rub eyes. Flush eyes thoroughly with water for 15 minutes. If condition worsens or irritation persists, contact physician.
 Skin Contact: Not applicable.
 Inhalation: Not applicable.
 Ingestion: Do not induce vomiting. Contact a physician or Poison Control Center.

5. FIRE FIGHTING MEASURES:NFPA: Health 1 Fire 1 Reactivity 0

Flashpoint °F/°C (PMCC method): Not determined.

Unusual Fire and Explosion Hazards: None known.

Special Fire Fighting Procedures: None known.

Extinguishing Media: X Water Fog X Alcohol Foam X CO₂ X Dry Chemical Other**6. ACCIDENTAL RELEASE MEASURES:**

No special requirements. Water clean up and rinse. CAUTION – WILL CAUSE SLIPPERY SURFACES.

7. HANDLING AND STORAGE:

Store at normal room temperature away from reach of small children. Keep containers sealed. Use older containers first. Avoid freezing conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Eye Protection: None required under normal conditions.

Skin Protection: None required under normal conditions.

Respiratory Protection: None required under normal conditions.

Ventilation: None required under normal conditions.

Protective Equipment or Clothing: None required under normal conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance and Odor Gray, opaque liquid with abrasives, light citrus fragrance.

pH (undiluted): 5.0-7.0

VOC, %: < 1%

10. STABILITY AND REACTIVITY:

Stable/Non reactive product.

11. TOXICOLOGICAL INFORMATION:

No acute or chronic toxic effects expected when used according to directions.

12. ECOLOGICAL CONSIDERATIONS:

No ecological or special considerations when used according to directions. Not considered environmentally harmful from normal dilution, expected usage and typical drainage to sewers, septic systems and treatment plants.

13. DISPOSAL CONSIDERATIONS:

No special considerations when disposed according to local, state and Federal regulations.

14. TRANSPORT INFORMATION:

Not classified as a hazardous material.

15. REGULATORY AND OTHER INFORMATION:

TSCA: All ingredients are listed or exempt per reference 15 USC 2602 (2)(B)(iv).

Complies with current FDA regulations for cosmetic and/or over-the-counter drug products.

WHMIS: Not Controlled

Notice: The information herein is based on data considered to be accurate as of the date of preparation of this material safety data sheet. However, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the foregoing data and safety information. The user assumes all liability for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.



Date: 15 October 2007
 Supercedes: 15 November 2004

MATERIAL SAFETY DATA SHEET

IN CASE OF EMERGENCY CALL CHEMTREC AT 1-800-424-9300

1. PRODUCT IDENTIFICATION AND COMPANY IDENTIFICATION:

Product Name: PURELL® INSTANT HAND SANITIZER

Company Name & Address: GOJO Industries, Inc.
 One GOJO Plaza, Suite 500
 Akron, OH 44311

Emergency Phone: 1-800-424-9300 CHEMTREC

Non-Emergency Phone: (330) 255-6000

MSDS Request Phone: (330) 255-6000 x8804

2. INFORMATION ON INGREDIENTS:

HAZARDOUS INGREDIENTS	CAS NUMBER	OSHA PEL	ACGIH TLV	% RANGE
Ethyl Alcohol	64-17-5	1000 ppm	1000 ppm	62
Isopropanol	67-63-0	400 ppm	400 ppm	<5

Other ingredient(s) with notification requirements:	CAS NUMBER	List
Ethyl Alcohol	64-17-5	MA 1; NJ 1S; PA 1; CN 2
Isopropanol	67-63-0	MA 1; NJ 1S; CN 1

3. HAZARDS IDENTIFICATION:

EMERGENCY OVERVIEW

When used according to instructions, the product applicable to this MSDS is safe and presents no immediate or long-term health hazard. However, abnormal entry routes, such as gross ingestion, may require immediate medical attention.

Potential Health Effects:

HMIS: Health 1 Flammability 3 Reactivity 0 Personal Protection None

Eye Contact: May cause eye irritation.

Skin Contact: No irritation or reaction expected.

Inhalation: Not applicable.

Ingestion: May cause upset stomach, nausea (Abnormal entry route).

Carcinogenicity: Not listed as a carcinogen by NTP, IARC, OSHA or ACGIH.

4. FIRST AID MEASURES:

Eye Contact: Do not rub eyes. Flush eyes thoroughly with water for 15 minutes. If condition worsens or irritation persists, contact physician.

Skin Contact: Not applicable.

Inhalation: Not applicable.

Ingestion: Do not induce vomiting. Contact a physician or Poison Control Center.

Purell is a trademark of Warner-Lambert Company LLC

5. FIRE FIGHTING MEASURES:

NFPA: Health 0 Fire 3 Reactivity 0
Flashpoint °F/°C (PMCC method): 86.36°F/30.2°C
Unusual Fire and Explosion Hazards: Product is flammable due to alcohol content.
Special Fire Fighting Procedures: None known.
Extinguishing Media: X Water Fog X Alcohol Foam X CO₂ X Dry Chemical Other

6. ACCIDENTAL RELEASE MEASURES:

Avoid contact with ignition sources since product is flammable. Absorb onto inert material and dispose in appropriate manner. Water clean up and rinse. CAUTION – WILL CAUSE SLIPPERY SURFACES.

7. HANDLING AND STORAGE:

Keep away from fire or flame. Store at normal room temperature away from reach of small children. Keep containers sealed. Use older containers first. Avoid freezing conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Eye Protection: None required under normal conditions.
Skin Protection: None required under normal conditions.
Respiratory Protection: None required under normal conditions.
Ventilation: None required under normal conditions.
Protective Equipment or Clothing: None required under normal conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance and Odor Clear liquid, citrus fragrance
pH (undiluted): 4.5 – 9.5
VOC, %: 65

10. STABILITY AND REACTIVITY:

Stable/Non reactive product. Avoid ignition sources.

11. TOXICOLOGICAL INFORMATION:

No acute or chronic toxic effects expected when used according to directions.

12. ECOLOGICAL CONSIDERATIONS:

No ecological or special considerations when used according to directions. Not considered environmentally harmful from normal dilution, expected usage and typical drainage to sewers, septic systems and treatment plants.

13. DISPOSAL CONSIDERATIONS:

Characteristic hazardous waste-flammable liquid. Dispose according to local, state and Federal regulations.

14. TRANSPORT INFORMATION:

Hazardous by transport regulations. When transported by Ground and Rail, this product typically is shipped as Consumer Commodity ORM-D. When transported by air, this product is typically shipped as Consumer Commodity or Alcohols N.O.S. depending on package size. When transported by ocean, this product is typically shipped as Limited Quantities. Refer to current regulations for exact requirements.

15. REGULATORY AND OTHER INFORMATION:

TSCA: All ingredients are listed or exempt per reference 15 USC 2602 (2)(B)(iv).

Complies with current FDA regulations for cosmetic and/or over-the-counter drug products.

Notice: The information herein is based on data considered to be accurate as of the date of preparation of this material safety data sheet. However, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the foregoing data and safety information. The user assumes all liability for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.



MATERIAL SAFETY DATA SHEET

Prepared: 12 July 2011

Section 1 – Product and Company Identification

Product(s): **SCRUBS® Hand Cleaner Towels**
 Formula: B422
 Part Number(s): 42201, 42210, 42225, 42230, 42256, 42260, 42272, 42280

Company Name & Address: **ITW Dymon**
 805 E. Old 56 Hwy.
 Olathe, KS 66061
 800-443-9536 (8 a.m. – 5 p.m. Weekdays, CDT)

Emergency Numbers: **IN CASE OF EMERGENCY, CALL Infotrac @ 1-800-535-5053, 24 hrs.**
INTERNATIONAL EMERGENCY NUMBER 352-323-3500
 Poison Control Center: 1-800-222-1222

Material Safety Data Sheets: www.dymon.com

Section 2 – Hazards Identification

CAUTION. May cause mild eye or skin irritation.

Potential Health Effects:

EYES:	May cause mild eye irritation.
SKIN:	May cause mild skin irritation.
INHALATION:	Not a likely exposure route.
INGESTION:	Not a likely exposure route.
Signs/symptoms of exposure: redness, tearing or burning in eyes. Redness, burning, drying or cracking of skin. Irritation of the throat or stomach, nausea, vomiting, diarrhea if swallowed. Medical conditions generally aggravated by exposure: pre-existing skin conditions such as dermatitis may be adversely affected by this and other oil and grease effective cleaners.	

HMIS Rating Health – 1 Flammability – 1 Reactivity – 0 Personal Protection – None

Section 3 – Composition/Information on Ingredients

Ingredient	CAS Number	Percent Range
Water	7732-18-5	60 – 100
D-Limonene (R-p-mentha, 1, 8-diene)	5989-27-5	5 – 13
Ethoxylated Alcohols (C12-15 pareth-7)	68131-39-5	1 – 5
Sodium Lauryl Sulfate	151-21-3	1 – 5
Fragrance	Mixture	1 – 5

Any substance listed as hazardous by the states of California, Florida, Illinois, Michigan, New Jersey, Ohio, Pennsylvania or Texas is described above if known present in regulated concentrations.

Section 4 – First Aid Measures

EYES:	Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. If irritation persists seek medical attention.
SKIN:	None usually required. Material is designed for skin cleansing. If symptoms develop seek medical attention.
INHALATION:	Unlikely route as liquid is impregnated on a towel, minimizing exposure via this route. If overexposed move to fresh air. If symptoms develop seek medical attention.
INGESTION:	Not a likely exposure route. If a large quantity of liquid is swallowed, do not induce vomiting, call a physician or poison control center immediately.

Section 5 – Fire Fighting Measures

Flashpoint (PMCC):	None to boiling, solution on towel.
Extinguishing Media:	Dry chemical, carbon dioxide, foam, fog or water spray.
Special Fire Fighting Procedures:	Keep containers cool and vapors down with water spray. Prevent runoff from entering sewers and public waterways.
Hazardous Products of Combustion:	Carbon monoxide, carbon dioxide, various hydrocarbons, hydrogen sulfide, sulfur dioxide and soot.

Section 6 – Accidental Release Measures

Small spill:	Wipe up small releases with a dry absorbent cloth or other absorbent material.
Large spill:	Absorb liquid with vermiculite, absorbent cloth, or other absorbent material. Prevent material from entering sewers and drains. Ventilate area and block traffic. Transfer contaminated material into suitable container for proper disposal.

Section 7 – Handling and Storage

Handling:	Do not allow towel contact with eyes. For external use only. Not for use around the mouth or eyes for an extended period of time. Do not smoke while using. Use from original container only and follow label directions carefully. Follow good chemical hygiene practices when handling this material.
Storage:	Keep container closed when not in use. Keep away from heat sources. Store in a cool well-ventilated area. Keep out of reach of children. Do not contaminate water, food or feed by use or storage. Keep from freezing.

Section 8 – Exposure Controls/Personal Protection

Engineering controls:	Ventilation not usually necessary but should be provided in the event of overexposure.
Exposure limits:	D-Limonene (CAS# 5989-27-5): 30 ppm, Manufacturer's recommendation
Eye protection:	None necessary. Do not allow towel to directly contact eyes.
Skin protection:	None necessary. Product is designed for direct skin use.
Respiratory protection:	Not usually necessary. If vapors are present or irritation is experienced, use NIOSH/MSHA approved respirator.

Section 9 – Physical and Chemical Properties

Appearance and Odor: White opaque liquid with a fresh citrus scent saturated onto towels.		
pH: 9.8 +/- 0.5	Boiling Point: 212 F	Specific Gravity: 0.986
Vapor Density: >1	Vapor Pressure: No Data	Solubility in Water: Miscible
Evaporation Rate: No Data	Volatile Organic Compounds (VOCs): ≤ 8% by weight	

Section 10 – Stability and Reactivity

Hazardous Polymerization:	This product will not undergo hazardous polymerization.
Hazardous Decomposition or Byproducts:	Carbon monoxide, carbon dioxide, hydrogen sulfide, sulfur dioxide and soot.
Chemical Stability:	Stable
Incompatible Materials:	Strong oxidizers and strong acids.

Section 11 – Toxicological Information

D-Limonene, CAS# 5989-27-5
 Acute Dermal LD50 >5g/kg, rabbit; Acute Oral LD50 >5g/kg, rat; Inhalation RD50 >1000ppm
 Ethoxylated Alcohols, CAS# 68131-39-5
 Acute Dermal LD50 <5g/kg, rabbit; Acute Oral LD50 1.6-2.7g/kg, rat
 Sodium Lauryl Sulfate, CAS#151-21-3
 Dermal 25mg/24hr=moderate, rabbit; Oral LD50 1288mg/kg, rabbit
 Eyes 100mg/24hr=moderate, rabbit

Section 12 – Ecological Information

Ethoxylated Alcohols, CAS# 68131-39-5
 96 hr fathead minnow static acute LC50:2.7mg/L; 48 hr Daphnia acute EC50:0.4-0.75 mg/L

Section 13 – Disposal Considerations

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

Waste information: If this product becomes a waste, it would not be hazardous as defined by RCRA (40CFR261). However the waste should be properly evaluated in case of modification prior to disposal.

Section 14 – Transport Information

The following transportation information is based on Department of Transportation Regulations found in 49 CFR. If shipping this product by air please refer to International Air Transport Association (IATA) Dangerous Goods Regulations. If shipping this product by ocean please refer to International Maritime Dangerous Goods Regulations (IMDG). To find how to ship this product please refer to the UN# listed below.

	UN #	Proper Shipping Description	Hazard Class	Packing Group
DOT Information	None	Not Regulated	None	None

Marine Pollutants: None

Section 15 – Regulatory Information**US Federal Regulations**

Toxic Substances Control Act (TSCA): All ingredients are on the TSCA inventory or exempt from listing.

CERCLA RQ

None

SARA 313 Components

None

State and Local Regulations

California Proposition 65

None

NSF Registration Category Code

E4, #138879

Section 16 – Other Information

WARNING! The use of this product is beyond the control of the manufacturer; therefore, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice. The user must assume all responsibility, including injury or damage, resulting from its misuse as such, or in combination with other materials. The manufacturer warrants only that this product meets the manufacturer's specifications for such product. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AS TO DESCRIPTION, QUALITY, AND MERCHANTABILITY. FITNESS FOR ANY PARTICULAR PURPOSE, PRODUCTIVENESS OR ANY OTHER MATTER, OF THIS PRODUCT. THE MANUFACTURER SHALL BE IN NO WAY RESPONSIBLE FOR THE IMPROPER USE OF THIS PRODUCT. The sole and exclusive remedy against the manufacturer for breach of warranty shall be reimbursement of the purchase price of the product in the event that a defective condition of the product shall be found to exist. NO OTHER REMEDY (INCLUDING BUT NOT LIMITED TO INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR INJURY TO PERSON OR PROPERTY OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE.

Permatex, Inc.
 10 Columbus Blvd.
 Hartford, CT 06106 USA
 Telephone: 1-87-Permatex
 (877) 376-2839
 Emergency: 800-255-3924 (ChemTel)
 International Emergency: +01-813-248-0585

Material Safety Data Sheet

1. PRODUCT IDENTIFICATION

Product Name: FAST ORANGE PUMICE LOTION 64 FL.OZ
 Item No: 25217
 Product Type: Waterless hand cleaner

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight%	ACGIH; TLV-TWA	OSHA PEL
WATER 7732-18-5	>75	Not listed	Not listed
PUMICE 1332-09-8	<10	10 mg/m ³ (inhal); 3 mg/m ³ (resp) ACGIH	Not listed
POLYMER EMULSION (PROPRIETARY)	<5	Not listed	Not listed
ETHOXYLATED C11-C16 ALCOHOL 127036-24-2	<5	Not listed	Not listed
CASTOR OIL 8001-79-4	<5	Not listed	Not listed
TRIETHANOLAMINE 102-71-6	<5	5 mg/m ³	Not listed

3. HAZARDS IDENTIFICATION

Toxicity: May irritate the eyes. May cause skin sensitization.
 Primary Routes of Entry: Eye and skin contact, ingestion, inhalation
 Signs and Symptoms of Exposure: None under normal conditons of use.

Component	Weight%	NTP	ACGIH Carcinogens	IARC Carcinogen
TRIETHANOLAMINE 102-71-6	<5	male rat-equivocal evidence; female rat- no evidence; male mice-inadequate; female mice- inadequate		Group 3; Monograph 77, 2000

Aggravated Medical Condition: None known.

4. FIRST AID MEASURES

Ingestion: If swallowed, DO NOT induce vomiting. Keep individual calm. Obtain medical attention.
 Inhalation: Immediate medical attention is not required.
 Skin Contact: Flush with water.
 Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

5. FIRE FIGHTING MEASURES

Flash Point °F(C°): >200°F CC
 Recommended Extinguishing Media: Carbon dioxide, Water, dry chemical
 Special Fire-Fighting Procedures: No special procedures.
 Hazardous Products of Combustion: None anticipated
 Unusual Fire/Explosion Hazards: None.

Lower Explosive Limit: N/D
 Upper Explosive Limit: N/D

Product Name: FAST ORANGE PUMICE LOTION 64
FL.OZ

Item No. 25217

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures: Rinse away with water or wipe up with a towel.

7. HANDLING AND STORAGE

Storage: Hand cleaner should be stored at temperatures between 40 degrees F. and 100 degrees F. Do not allow freezing.

Handling: Follow all general safety precautions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eyes: Not required.

Skin: Not required.

Ventilation: Not required under normal use.

Respiratory Protection: Not required under normal use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White lotion with pumice

Odor: Orange

Boiling Point: >200°F / >93°C

pH: 6.0-8.0

Solubility in Water: Soluble

Specific Gravity: 1.05

VOC(Wt.%): <1%

Vapor Pressure: N/D

Vapor Density (Air=1): >1

Evaporation Rate: <1 (butyl acetate = 1)

10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal conditions

Hazardous Polymerization: Will not occur

Incompatibilities: None known

Conditions to Avoid: Freezing.

Hazardous Products of Combustion: None anticipated

11. TOXICOLOGICAL INFORMATION

See Section 3

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended Method of Disposal: Dispose of uncontaminated material through sewer system with permission of the authority responsible for that system.

US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49CFR 172)

U.S. Department of Transportation - DOT - 49 CFR (Ground)

DOT Shipping Name: Not regulated

Hazard Class: None

UN/ID Number: None

IATA (Air)

Proper Shipping Name: Not regulated

Class or Division: None

UN/ID Number: None

IMDG (Vessel)

Proper Shipping Name: Not regulated

Hazard Class: None

UN Number: None

Product Name: FAST ORANGE PUMICE LOTION 64
FL.OZ

Item No. 25217

Marine Pollutant: None

15. REGULATORY INFORMATION

SARA 313 Chemicals: The following component(s) is listed as a SARA Section 313 Toxic Chemical.

None

California Proposition 65: No California Prop 65 chemicals are known to be present.

TSCA Inventory Status: All components of this product are listed (or exempt) on the EPA TSCA inventory.

16. OTHER INFORMATION

Estimated NFPA Rating: HEALTH 1, FLAMMABILITY 1, REACTIVITY 0.

Estimated HMIS Classification: HEALTH 1, FLAMMABILITY 1, PHYSICAL HAZARD 0

(NFPA is a registered trademark of the National Fire Protection Association)

HMIS is a registered trademark of the National Paint and Coatings Association

Prepared By:	Denise Boyd, Manager-Environmental, Health & Safety	Revision Date: September 12, 2011
Company:	Permatex, Inc. 10 Columbus Blvd. Hartford, CT USA 06106	Revision Number: 1
Telephone No.:	1-87-Permatex (877) 376-2839	

Permatex, Inc.
 10 Columbus Blvd.
 Hartford, CT 06106 USA
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 (877) 376-2839
 Emergency: 800-255-3924
 International Emergency: +01-813-248-0585

Material Safety Data Sheet

1. PRODUCT IDENTIFICATION

Product Name: FAST ORANGE WIPES 72 CT BUCKET
 Item No: 25072
 Product Type: Cleaning wipes

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight%	ACGIH; TLV-TWA	OSHA PEL
WATER 7732-18-5	60-80	Not listed	Not listed
D-LIMONENE 5989-27-5	<10	Not listed	Not listed
ETHOXYLATED ALCOHOLS (C12-15 PARETH-7) 68131-39-5	<5	Not listed	Not listed
SODIUM LAURYL SULFATE 151-21-3	<5	Not listed	Not listed

3. HAZARDS IDENTIFICATION

Toxicity: May irritate the eyes. May cause gastric disturbances if swallowed.
 Primary Routes of Entry: Eyes, Oral
 Signs and Symptoms of Exposure: Contact with eyes may cause tearing and redness. Ingestion may cause nausea and vomiting.

Component	Weight%	NTP	ACGIH Carcinogens	IARC
D-LIMONENE 5989-27-5	<10	male rat-clear evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence		Group 3 Monograph 73, 1999

Medical Conditions Recognized as Being Aggravated by Exposure: None known.

4. FIRST AID MEASURES

Ingestion: If swallowed, DO NOT induce vomiting. Keep individual calm. Obtain medical attention.
 Inhalation: None reasonably foreseeable.
 Skin Contact: None under normal use.
 Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

5. FIRE FIGHTING MEASURES

Flash Point *F(C*): None
 Recommended Extinguishing Media: Water fog, carbon dioxide, foam, dry chemical.
 Special Fire-Fighting Procedures: No special procedures.
 Hazardous Products of Combustion: Oxides of carbon, Hydrogen sulfide, Sulfur dioxide
 Unusual Fire/Explosion Hazards: None.

Lower Explosive Limit: Not determined
 Upper Explosive Limit: Not determined

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures: Pick up contaminated wipes and place in an appropriate waste container until disposal.

7. HANDLING AND STORAGE

Storage: Store in a cool, dry area.
Handling: Follow all general safety precautions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eyes: Not required.
Skin: Not required.
Ventilation: None under normal use.
Respiratory Protection: Not required under normal use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White liquid soaked into non-woven cloth
Odor: Orange
Boiling Point: >200°F
pH: 9.8
Solubility in Water: Dispersible
Specific Gravity: 0.98
VOC(Wt.%): 8%; 78.97 g/l
Vapor Pressure: Not determined
Vapor Density (Air=1): >1
Evaporation Rate: Not determined

10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal conditions
Hazardous Polymerization: Will not occur.
Incompatibilities: Strong oxidizers, Acids
Conditions to Avoid: Heat.
Hazardous Products of Combustion: Oxides of carbon, Hydrogen sulfide, Sulfur dioxide

11. TOXICOLOGICAL INFORMATION

See Section 3

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended Method of Disposal: Dispose of in accordance with local, state and federal regulations.
US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49CFR 172)

Ground Transport (DOT)

DOT Shipping Name: Not Regulated
Hazard Class: None
UN/ID Number: None

IATA

Proper Shipping Name: Not regulated
Class or Division: None
UN/ID Number: None

IMDG

Proper Shipping: Not regulated
Hazard Class: None
UN Number: None

Marine Pollutant: None

Product Name: FAST ORANGE WIPES 72 CT BUCKET

Item No: 25072

15. REGULATORY INFORMATION

SARA 313 Chemicals: The following component(s) is listed as a SARA Section 313 Toxic Chemical.

None

California Proposition 65: No California Prop 65 chemicals are known to be present.

TSCA Inventory Status: All components of this product are listed (or exempt) on the EPA TSCA inventory.

16. OTHER INFORMATION

Estimated NFPA Rating: HEALTH 1, FLAMMABILITY 1, REACTIVITY 0.

Estimated HMIS Classification: HEALTH 1, FLAMMABILITY 1, PHYSICAL HAZARD 0

NFPA is a registered trademark of the National Fire Protection Assn.

HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Denise Boyd, Manager-Environmental, Health & Safety

Revision Date: March 09, 2010

Company: Permatex, Inc. 10 Columbus Blvd. Hartford, CT USA 06106

Revision Number: 7

Telephone No.: 1-87-Permatex (877) 376-2839



MATERIAL SAFETY DATA SHEET

Issue No: 2

Effective Date: March 1997

Serial No.: RAY/2010

PRODUCT IDENTIFICATION

THIS MSDS IS FURNISHED FOR A GROUP OF PRODUCTS WHICH HAVE SIMILAR PROPERTIES DURING NORMAL CONDITIONS OF USE, BUT WHICH MAY EMIT DISSIMILAR THERMAL DEGRADATION BYPRODUCTS IF OVERHEATED. FOR MORE SPECIFIC INFORMATION, PLEASE CALL (650) 361-4907.

Product Name: Hot Melt Adhesives/Mastics

Chemical Name: Not applicable, mixture

CAS #: See ingredients section below.

Manufacturer: Raychem Corporation
300 Constitution Drive
Menlo Park, CA 94025

DOT Proper Shipping Name: Not regulated

DOT Identification No: Not regulated

DOT Hazard Classification: Not regulated

TSCA Inventory Status: All ingredients are listed

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE or ACCIDENT

Call CHEMTREC - Day or Night - 1-800-424-9300 Toll free in the continental U.S., Hawaii, Puerto Rico, Canada, Alaska or Virgin Islands. For calls originating elsewhere: (703) 527-3887 (collect calls accepted)

For non-emergency health and safety information, call: (650) 361-4907

HAZARDOUS INGREDIENTS

These hot melt adhesives and mastics are not hazardous during proper installation, but may emit hazardous thermal decomposition and combustion byproducts if overheated to degradation. See "Thermal Degradation and Combustion Byproduct" section of this MSDS for more specific information. Base polymer materials include olefin copolymers or polyamides.

PRODUCT IDENTIFICATION

Hot melt adhesives and mastics are used as sealants, strain relief, and void fillers for heat-shrinkable polymeric and polyolefin products. Typical uses for these products include primary electrical insulation, EMI/RFI shielding, cable jacketing and repair, strain relief, component encapsulation, waterproofing, packaging, cable/pipe identification, corrosion protection, environmental/mechanical protection, and cable joining, splicing, and termination in commercial, electrical power generation and distribution, telecommunication, pipeline distribution and military/aerospace electronic applications.

PHYSICAL PROPERTIES

Appearance and Odor: Off-white, amber, gray, black or red solids with little or no odor.

Boiling Point: Not applicable

Vapor Pressure(mm Hg @ 20°C): Not applicable

Melting Point: See installation guide

Evaporation Rate: Not applicable

Volatility: Not applicable

Vapor Density: Not applicable

Specific Gravity: 0.93 - 1.47

Solubility in Water: Not applicable

Flash Point (°F)/Method:

Not applicable

Flammable Limits in Air (volume %): Lower Not applicable

Upper Not applicable

HEALTH HAZARD INFORMATION

Exposure Limits: There are no established exposure limits for polymer mixtures.

Health Effects/Symptoms of Exposure:

Acute (Short-Term Exposure):

Eye Contact: Contact with molten material may cause thermal burns.

Skin Contact: This product is not expected to be a skin irritant. Contact with the molten material may cause thermal burns. No harmful effects are expected from skin absorption of this product.

Ingestion (Swallowing): Ingestion of this product is highly unlikely. There is insufficient information available on this material to predict the effects from ingestion.

Inhalation (Breathing): In common with most organic materials, thermal degradation and combustion byproducts may be toxic and should not be inhaled. (See Comments below and the Thermal Degradation and Combustion Byproducts Section for more specific information.)

Chronic (Long-Term Exposure):

None of the ingredients to which users may be exposed and which are present at equal to or greater than 0.1% of the product, are listed by OSHA, NTP, or IARC as suspect carcinogens.

Comments: Overheating the product to charring or burning may produce vapors that may cause eye, skin, nose and throat irritation. Persons with pre-existing eye, skin, or respiratory disorders (e.g., asthma conditions) may be more susceptible to the effects of these vapors.

STORAGE, HANDLING, AND PREVENTIVE MEASURES

Stability at room temperature: This product is stable under normal conditions.

Conditions to Avoid: Avoid overheating of product and open flame.

Incompatibilities (Materials to Avoid): Strong oxidizers, peroxides, acids and reducing agents.

Hazardous Polymerization: Will not occur. No known polymerization conditions to avoid.

Thermal Degradation and Combustion Byproducts: In common with most organic materials, degradation and combustion byproducts may be toxic and should not be inhaled. Thermal degradation is not significant at temperatures achieved during proper installation, as directed by product installation guides. At temperatures higher than those recommended for proper installation, most significantly if the product burns, the thermal degradation and combustion byproducts may include, but are not limited to, carbon monoxide, carbon dioxide, organic acids, aldehydes and alcohols, oxides of nitrogen, sulfur, and silicon, acetic acid, tetrahydrofuran, acrolein, vinyl acetate, and aromatic and aliphatic hydrocarbons.

Handling: Avoid any vapors given off if the product is heated to decomposition, as shown by a darkening and browning. Avoid contact with molten material. Heat-resistant gloves are required if hot products are handled after installation. Do not consume food, beverages or tobacco in the immediate work area. Wash hands before eating, drinking or smoking.

Storage: Store in a cool, dry well-ventilated area.

Other Precautions: Avoid heating products beyond temperatures required for normal installation. See installation instructions for proper installation procedures. If product chars or burns, immediately stop heating. Avoid inhaling any fumes which may be given off under such circumstances. Allow any vapors to disperse and ventilate before continuing work in the area.

Ventilation: In accordance with good industrial hygiene practice, ensure adequate ventilation during installation.

Respiratory Protection: If installation occurs in a confined, unventilated area, NIOSH/MSHA-approved air-supplied respirators are recommended.

Protective Clothing: OSHA, ANSI, or NIOSH guidelines should be followed. If there is a danger of molten material contacting the skin or eyes, use eye/face protection and heat resistant gloves. If it is necessary to handle grossly overheated or fire-damaged products, wear natural rubber gloves to prevent possible contact with potentially corrosive inorganic acid residues.

Transportation: These products are non-hazardous under Department of Transportation Regulations 49, CFR Section 171.8, IATA, IMO, and AFR 71-4. Because there are no applicable shipping regulations for these products, labels are not required on the outside shipping container for these products and all products may be shipped through the U.S. Postal Services.

Disposal: This material is a non-hazardous waste in accordance with Federal U.S. EPA regulations. Classification according to all local and state hazardous waste regulations is required before disposal.

Installation: Follow appropriate Raychem installation instructions and application guides to ensure that installation is performed properly. Ensure that any local requirements/legislation concerning the use of hand-held electrical equipment are observed. When using IR (infrared) heating devices, observe specific instructions. Do not touch hot surfaces on installation equipment.

EMERGENCY AND FIRST AID PROCEDURES

Eyes: If eye irritation occurs, hold eyelids apart and flush affected area(s) with clean water. Seek medical attention.

Skin: First aid is normally not required. After handling product, it is good work practice to wash your hands. If molten material contacts skin, cool area immediately in water. DO NOT attempt to remove material from the skin. Treat as a burn, and seek medical attention.

Ingestion: Not a normal route of exposure. However, if swallowed and symptoms develop, seek medical attention.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim to fresh air. If symptoms persist, seek medical attention. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention. If victim is not breathing, immediately begin artificial respiration. Keep victim warm and quiet; seek immediate medical attention.

Steps to be Taken in Case of Release or Spill: Wear appropriate personal protection when responding then sweep up and collect in a suitable container for disposal or reuse.

Unusual Fire and Explosion Hazards: Toxic fumes may be given off in a fire. See also sections on Thermal Degradation and Combustion Byproducts and Other Precautions.

Special Fire Fighting Procedures: Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive demand mode when fighting fires.

Extinguishing Media: carbon dioxide X water X dry chemical X foam X other _____

Selection of extinguishing media should be based upon the size of the fire, the firefighting training/experience of the individual attempting to extinguish or control the fire, and the packaging materials exposed to the fire.

This information is supplied in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the California Safe Drinking Water and Toxics Enforcement Act of 1986 (California Health & Safety Code 25249.6). Users are advised that they may have additional disclosure obligations under other federal, state, and local laws. Users are advised to ensure that this information is brought to the attention of the employees, agents, or contractors handling this product. Distributors of this product are advised to forward this document, or the information contained herein, to their purchaser. Raychem makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. Raychem's obligations shall be only as set forth in Raychem's standard terms and conditions of sale for this product and in no case will Raychem be liable for any incidental, indirect, or consequential damages arising out of the sale, resale, use or misuse of the product. Users of Raychem products should make their own evaluation to determine the suitability of each such product for the specific application and to establish safe handling and installation procedures.

Data Sheet Prepared By: Linda Massey, Corporate Toxicology

Date: March 1997

Data Sheet Approved By: Kathy Maher, EPD Division
Ron Watson, Electronics Division
George Pieslak, Chemelex Pipe Protection Division
Rudy Bukownik, Telecom Division

Date: March 1997

Date: March 1997

Date: March 1997

Date: March 1997

R**MATERIAL SAFETY DATA SHEET**

Issue No: 5

Effective Date: October 1994

Serial No.: RAY/4566

PRODUCT IDENTIFICATION

THIS MSDS IS FURNISHED FOR A GROUP OF PRODUCTS WHICH HAVE SIMILAR PROPERTIES DURING NORMAL CONDITIONS OF USE, BUT WHICH MAY EMIT DISSIMILAR THERMAL DEGRADATION BYPRODUCTS IF OVERHEATED. FOR MORE SPECIFIC INFORMATION, PLEASE CALL (650) 361-4907.

Product Name: Heat-Shrinkable Polymeric Products
(excluding Solder Sleeves - see separate MSDS)

Chemical Name: Not applicable, mixture
CAS #: Not applicable, mixture
DOT Proper Shipping Name: Not regulated
DOT Identification No.: Not regulated
DOT Hazard Classification: Not regulated
TSCA Inventory Status: Exempt

Manufacturer: Raychem Corporation
300 Constitution Drive
Menlo Park, CA 94025

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE or ACCIDENT

Call CHEMTREC - Day or Night - 1-800-424-9300 Toll free in the continental U.S., Hawaii, Puerto Rico, Canada, Alaska or Virgin Islands. For calls originating elsewhere: (703) 527-3887 (collect calls accepted)

For non-emergency health and safety information, call: (650) 361-4907

HAZARDOUS INGREDIENTS

Heat-Shrinkable Polymeric Products are not hazardous during proper installation, but may emit hazardous thermal decomposition and combustion byproducts if overheated to degradation. See "Thermal Degradation and Combustion Byproduct" section of this MSDS for more specific information. Base polymer materials include polyethylene and olefin copolymers, fluoropolymers, chloropolymers, polyamides, polyesters, and silicones. Heat-shrinkable products may be coated with or used in conjunction with adhesives/mastics which are based on olefin copolymers or polyamides. Larger products may be coated on their exterior with an acrylic-based temperature-sensitive paint which indicates to the installer when sufficient heat has been applied to cause the adhesive to flow.

PRODUCT APPLICATIONS

Typical uses of heat-shrinkable polymeric products include primary electrical insulation, EMI/RFI shielding, cable jacketing and repair, strain relief, component encapsulation, waterproofing, cable identification, corrosion protection, environmental/mechanical protection, and cable joining, splicing, and termination in applications ranging from electrical power generation and distribution to electrical equipment manufacture.

PHYSICAL PROPERTIES

Appearance and Odor: Plastic tubing and molded parts in a variety of shapes, sizes and colors. No odor.

Boiling Point: Not applicable

Vapor Pressure (mm Hg @ 20°C): Not applicable

Volatility (% by Volume): Not applicable

Vapor Density: Not applicable

Specific Gravity (Water=1): Not applicable

Evaporation Rate: Not applicable

Flash Point (°F)/Method: Not applicable

Solubility In Water (%): Insoluble

Flammable Limits in Air (volume %): Lower Not applicable Upper Not applicable

HEALTH HAZARD INFORMATION

Exposure Limits: There are no established exposure limits for polymer mixtures.

Health Effects/Symptoms of Exposure:

Proper installation of this product creates no known acute or chronic health hazards.

Acute (Short-Term Exposure):

Eye Contact: Contact with molten material may cause thermal burns.

Skin Contact: This product is not expected to be a skin irritant. Contact with the molten material may cause thermal burns. No harmful effects are expected from skin absorption of this product.

Ingestion (Swallowing): **Ingestion of this product is highly unlikely.** There is insufficient information available on this material to predict the effects from ingestion.

Inhalation (Breathing): In common with most organic materials, thermal degradation and combustion byproducts may be toxic and should not be inhaled. (See Comments below and the Thermal Degradation and Combustion Byproducts Section for more specific information.)

Chronic (Long-Term Exposure):

None of the ingredients to which users may be exposed and which are present at equal to or greater than 0.1% of the product, are listed by OSHA, NTP, or IARC as suspect carcinogens.

Comments: Overheating the product to charring or burning may produce vapors that may cause eye, skin, nose and throat irritation. Persons with pre-existing eye, skin, or respiratory disorders (e.g., asthma conditions) may be more susceptible to the effects of these vapors.

STORAGE, HANDLING, AND PREVENTATIVE MEASURES

Stability at room temperature: This product is stable under normal conditions.

Conditions to Avoid: Avoid overheating of product.

Incompatibilities (Materials to Avoid): None known.

Hazardous Polymerization: Will not occur. No known polymerization conditions to avoid.

Thermal Degradation and Combustion Byproducts: In common with most organic materials, degradation and combustion byproducts may be toxic and should not be inhaled. Thermal degradation is not significant at temperatures achieved during proper installation, as directed by product installation guides. At temperatures higher than those recommended for proper installation, most significantly if the product burns, the thermal degradation and combustion byproducts will depend on the base polymer used, and may include, but are not limited to, carbon monoxide, carbon dioxide, aldehydes, acetic acid, low molecular weight hydrocarbons, silicon dioxide, hydrogen chloride, hydrogen fluoride, hydrogen bromide, fluoro-olefins, and oxides of nitrogen, phosphorus, and sulfur.

Handling: For products containing a thermochromic temperature indicator, discontinue heating after the color changes from red to colorless. Avoid any vapors given off if the product is heated to decomposition, as shown by a darkening and browning of the sleeve. Avoid contact with molten material. Heat-resistant gloves are required if hot products are handled after installation. Do not consume food, beverages or tobacco in the immediate work area. Wash hands before eating, drinking or smoking.

Other Precautions: Avoid heating products beyond temperatures required for normal installation. See installation instructions for proper installation procedures. If product chars or burns, immediately stop heating. Avoid inhaling any fumes which may be given off under such circumstances. Allow any vapors to disperse and ventilate before continuing work in the area.

Ventilation: In accordance with good industrial hygiene practice, ensure adequate ventilation during installation.

Respiratory Protection: If installation occurs in a confined, unventilated area, NIOSH/MSHA-approved respirators are recommended.

Protective Clothing: OSHA, ANSL, or NIOSH guidelines should be followed. If there is a danger of molten material contacting the skin or eyes, use eye/face protection and heat resistant gloves. If it is necessary to handle grossly overheated or fire-damaged products, wear natural rubber gloves to prevent possible contact with potentially corrosive inorganic acid residues.

Transportation: These products are non-hazardous under Department of Transportation Regulations 49, CFR Section 171.8, IATA, IMO, and AFR 71-4. Because there are no applicable shipping regulations for these products, labels are not required on the outside shipping container for these products and all products may be shipped through the U.S. Postal Services.

Disposal: Dispose in accordance with all local, state and federal regulations. If there are local regulations covering the controlled incineration of halogenated materials, then all halogen-containing products will be subject to such regulations. Refer to the product literature for identification of halogen-containing products.

Installation: Follow appropriate Raychem installation instructions and application guides to ensure that installation is performed properly. Ensure that any local requirements/legislation concerning the use of hand-held electrical equipment are observed. When using IR (infrared) heating devices, observe specific instructions. Do not touch hot surfaces on installation equipment.

EMERGENCY AND FIRST AID PROCEDURES

Eyes: If eye irritation occurs, hold eyelids apart and flush affected area(s) with clean water. Seek medical attention.

Skin: First aid is normally not required. After handling product, it is good work practice to wash your hands. If molten material contacts skin, cool area immediately in water. DO NOT attempt to remove material from the skin. Treat as a burn, and seek medical attention.

Ingestion: Not a normal route of exposure. However, if swallowed and symptoms develop, seek medical attention.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim to fresh air. If symptoms persist, seek medical attention. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention. If victim is not breathing, immediately begin artificial respiration. Keep victim warm and quiet; seek immediate medical attention.

Steps to be Taken in Case of Release or Spill: Wear appropriate personal protection when responding then sweep up and collect in a suitable container for disposal or reuse.

Unusual Fire and Explosion Hazards: Toxic fumes may be given off in a fire. See also sections on Thermal Degradation and Combustion Byproducts and Other Precautions.

Special Fire Fighting Procedures: Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive demand mode when fighting fires.

Extinguishing Media: carbon dioxide water dry chemical foam other

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Data Sheet Prepared By: Linda Massey, Corporate Toxicology

Date: October 1994

Data Sheet Approved By: Kathy Maher, Electrical Products Division

Date: October 1994

Raychem

MATERIAL SAFETY DATA SHEET

Issue No: 1

Effective Date: May 1997

Serial No.: RAY/4567

PRODUCT IDENTIFICATION

Product Name: S-1308 Stress Patch

Chemical Name: Not applicable

CAS #: Not applicable, mixture

DOT Proper Shipping Name: Not regulated.

DOT Identification No: Not regulated.

DOT Hazard Identification: Not regulated.

TSCA Status: All ingredients are listed.

Manufacturer: Raychem Corporation
300 Constitution Drive
Menlo Park, CA 94025

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE or ACCIDENT

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For non-emergency health and safety information, call: (650) 361-4907

HAZARDOUS INGREDIENTS

All ingredients are considered proprietary.

NOTE: This material contains an antimony compound (maximum of 8%) and a zinc compound (maximum of 76%) which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

PHYSICAL PROPERTIES

Appearance and Odor: Dark green sheet. Slight hydrocarbon odor.

Boiling Point: Not applicable

Melting Point: Not applicable

Vapor Pressure (mm Hg @ 20°C): Not applicable

Vapor Density: Not applicable

Specific Gravity (water = 1): 2.6

Evaporation Rate: Not applicable

Flash Point (°F)/Method: Not applicable

Solubility in Water: Insoluble

Flammable Limits in Air (volume %): Lower Not applicable Upper Not applicable

HEALTH HAZARD INFORMATION

Exposure Limits: There are no exposure limits applicable to this product as supplied or used.

Health Effects/Symptoms of Exposure:

The information presented below corresponds to the individual components of this material. Toxicity studies have not been performed on the mixture as a whole.

Acute (Short-Term Exposure):

Eye Contact: This product is not expected to cause eye irritation.

Skin Contact: This product is not expected to cause skin irritation. There is insufficient information available on this product to predict the effects from skin absorption.

Ingestion (Swallowing): Ingestion of this product is highly unlikely. While this product has a low degree of toxicity, ingestion of excessive quantities may cause nausea, vomiting, diarrhea, and severe irritation of the intestinal tract. Persons with pre-existing gastrointestinal disorders may be more susceptible to the effects of ingesting this product.

Inhalation (Breathing): Inhalation of this product is unlikely due to its low volatility.

Chronic (Long-Term Exposure):

Results of tests in laboratory animals and cell culture systems have shown that a component of this product can cause irreversible changes in the genetic material (DNA) of a cell. The human health consequence of these changes is not fully understood.

The ingredients of this product, present at equal to or greater than 0.1% of this product, are not listed by OSHA, NTP, or IARC as suspect carcinogens.

STORAGE, HANDLING, AND PREVENTATIVE MEASURES

Stability: Stable at room temperature.

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

Incompatibilities (Materials to Avoid): Avoid contact with strong oxidizing agents.

Hazardous Polymerization: Will not occur. No known polymerization conditions to avoid.

Thermal Degradation and Combustion Byproducts: Toxic gases and vapors may be released in a fire involving this material. Thermal degradation products may include, but not be limited to, carbon monoxide, carbon dioxide, various hydrocarbons, and water. At temperatures above 1472°F (800°C), toxic metal oxide fumes may be given off.

Handling: Wash thoroughly after handling.

Storage: Store in closed containers in a cool, dry, well ventilated area away from direct heat and light.

Ventilation: In accordance with good industrial hygiene practice, ensure adequate ventilation during application.

Respiratory Protection: Respiratory protection is not normally required.

Protective Clothing and Equipment: None normally required.

Disposal: This material contains metallic compounds. Hazardous waste determination is required according to all federal, state and local regulations before disposal.

EMERGENCY AND FIRST AID PROCEDURES

Eyes: If eye irritation occurs, hold eyelids apart and flush affected eye(s) immediately with clean water. Seek medical attention.

Skin: Thoroughly wash affected area(s) with mild soap and water. If irritation or redness develops and persists, seek medical attention.

Ingestion: Ingestion of this product is highly unlikely. However, if swallowed and symptoms develop, seek medical attention.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim to fresh air. If symptoms persist, seek medical attention. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention. If victim is not breathing, immediately begin artificial respiration. Keep victim warm and quiet; seek immediate medical attention.

Steps to be Taken in Case of Release or Spill: Classification according to all federal, local and state hazardous waste regulations is required before disposal.

Unusual Fire and Explosion Hazards: Toxic fumes may be given off in a fire. See sections on Thermal Degradation and Combustion Byproducts and Other Precautions.

Special Fire Fighting Procedures: Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.

Extinguishing Media: : carbon dioxide X water X dry chemical X foam X other _____
Selection of extinguishing media should be based upon the size of the fire, the firefighting training/experience of the individual attempting to extinguish or control the fire, and the packaging materials exposed to the fire.

This information is supplied in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the California Safe Drinking Water and Toxics Enforcement Act of 1986 (California Health & Safety Code 25249.6). Users are advised that they may have additional disclosure obligations under other federal, state, and local laws. Users are advised to ensure that this information is brought to the attention of the employees, agents, or contractors handling this product. Distributors of this product are advised to forward this document, or the information contained herein, to their purchaser. Raychem makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. Raychem's obligations shall be only as set forth in Raychem's standard terms and conditions of sale for this product and in no case will Raychem be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of Raychem products should make their own evaluation to determine the suitability of each such product for the specific application and to establish safe handling and installation procedures.

Data Sheet Prepared By: Donna Seid, Corporate Toxicology

Date: May 1997

Data Sheet Approved By: Kathy Maher, Electrical Products Division

Date: May 1997

Material Safety Data Sheet

Airgas

Oxygen

Section 1. Chemical product and company identification

Product name : Oxygen
Supplier : AIRGAS INC., on behalf of its subsidiaries
 259 North Radnor-Chester Road
 Suite 100
 Radnor, PA 19087-5283
 1-610-687-5253

Product use : Synthetic/Analytical chemistry.
Synonym : Molecular oxygen; Oxygen molecule; Pure oxygen; O₂; Liquid-oxygen-; UN 1072; UN 1073; Dioxygen; Oxygen USP, Aviator's Breathing Oxygen (ABO)
MSDS # : 001043
Date of Preparation/Revision : 6/16/2011.
In case of emergency : 1-866-734-3438

Section 2. Hazards identification

Physical state : Gas.
Emergency overview : DANGER!
 GAS:
 OXIDIZER.
 CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
 CONTENTS UNDER PRESURE.
 Do not puncture or incinerate container.
 May cause severe frostbite.
 LIQUID:
 OXIDIZER.
 CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
 Extremely cold liquid and gas under pressure.
 May cause severe frostbite.

 Do not puncture or incinerate container. Store in tightly-closed container. Avoid contact with combustible materials.
 Contact with rapidly expanding gases or liquids can cause frostbite.

Routes of entry : Inhalation

Potential acute health effects

Eyes : May cause eye irritation. Contact with rapidly expanding gas may cause burns or frostbite. Contact with cryogenic liquid can cause frostbite and cryogenic burns.

Skin : May cause skin irritation. Contact with rapidly expanding gas may cause burns or frostbite. Contact with cryogenic liquid can cause frostbite and cryogenic burns.

Inhalation : Respiratory system irritation after overexposure to high oxygen concentrations.

Ingestion : Ingestion is not a normal route of exposure for gases. Contact with cryogenic liquid can cause frostbite and cryogenic burns.

Medical conditions aggravated by over-exposure : Acute or chronic respiratory conditions may be aggravated by overexposure to this gas.

See toxicological information (Section 11)

Oxygen

Section 3. Composition, Information on Ingredients

<u>Name</u>	<u>CAS number</u>	<u>% Volume</u>	<u>Exposure limits</u>
Oxygen	7782-44-7	100	

Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

- Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact : None expected.
- Frostbite : Try to warm up the frozen tissues and seek medical attention.
- Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention.
- Ingestion : As this product is a gas, refer to the inhalation section.

Section 5. Fire-fighting measures

- Flammability of the product : Non-flammable.
- Products of combustion : No specific data.
- Fire hazards in the presence of various substances : Extremely flammable in the presence of the following materials or conditions: reducing materials, combustible materials and organic materials.
- Fire-fighting media and instructions : Use an extinguishing agent suitable for the surrounding fire.

Apply water from a safe distance to cool container and protect surrounding area. If involved in fire, shut off flow immediately if it can be done without risk.

Contains gas under pressure. Contact with combustible material may cause fire. This material increases the risk of fire and may aid combustion. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

- Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

- Personal precautions : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Eliminate all ignition sources if safe to do so. Do not touch or walk through spilled material. Shut off gas supply if this can be done safely. Isolate area until gas has dispersed.
- Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

- Handling : High pressure gas. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Store in tightly-closed container. Avoid contact with combustible materials. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
- Never allow any unprotected part of the body to touch uninsulated pipes or vessels that contain cryogenic liquids. Prevent entrapment of liquid in closed systems or piping without pressure relief devices. Some materials may become brittle at low temperatures and will easily fracture.

Oxygen

Storage : Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalis, reducing agents and combustibles. 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).
For additional information concerning storage and handling refer to Compressed Gas Association pamphlets P-1 Safe Handling of Compressed Gases in Containers and P-12 Safe Handling of Cryogenic Liquids available from the Compressed Gas Association, Inc.

Section 8. Exposure controls/personal protection

Engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

When working with cryogenic liquids, wear a full face shield.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Insulated gloves suitable for low temperatures

Personal protection in case of a large spill : Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product.

Product name

Oxygen

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Molecular weight : 32 g/mole
Molecular formula : O₂
Boiling/condensation point : -183°C (-297.4°F)
Melting/freezing point : -218.4°C (-361.1°F)
Critical temperature : -118.6°C (-181.5°F)
Vapor density : 1.105 (Air = 1) **Liquid Density@BP**: 71.23 lb/ft³ (1141 kg/m³)
Specific Volume (ft³/lb) : 12.0482
Gas Density (lb/ft³) : 0.083

Section 10. Stability and reactivity

Stability and reactivity : The product is stable.

Incompatibility with various substances : Extremely reactive or incompatible with the following materials: oxidizing materials, reducing materials and combustible materials.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Oxygen

Section 11. Toxicological information

Toxicity data

Other toxic effects on humans : No specific information is available in our database regarding the other toxic effects of this material to humans.

Specific effects

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Reproduction toxicity : No known significant effects or critical hazards.

Section 12. Ecological information

Aquatic ecotoxicity

Not available.

Environmental fate : Not available.





Environmental hazards : This product shows a low bioaccumulation potential.

Toxicity to the environment : Not available.



Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1072	OXYGEN, COMPRESSED	2.2	Not applicable (gas).	 	Limited quantity Yes.
	UN1073	Oxygen, refrigerated liquid				Packaging instruction Passenger aircraft Quantity limitation: 75 kg Cargo aircraft Quantity limitation: 150 kg Special provisions A52
TDG Classification	UN1072	OXYGEN, COMPRESSED	2.2	Not applicable (gas).	 	Explosive Limit and Limited Quantity Index 0.125
	UN1073	Oxygen, refrigerated liquid				ERAP Index 3000 Passenger Carrying Ship

Oxygen

						Index 50 Passenger Carrying Road or Rail Index 75 Special provisions 42
Mexico Classification	UN1072 UN1073	OXYGEN, COMPRESSED Oxygen, refrigerated liquid	2.2	Not applicable (gas).	 	-

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Section 15. Regulatory information

United States

U.S. Federal regulations : **TSCA 8(a) IUR**: Partial exemption
United States inventory (TSCA 8b): This material is listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Oxygen
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
Oxygen: Fire hazard, Sudden release of pressure, Delayed (chronic) health hazard

State regulations :

- Connecticut Carcinogen Reporting**: This material is not listed.
- Connecticut Hazardous Material Survey**: This material is not listed.
- Florida substances**: This material is not listed.
- Illinois Chemical Safety Act**: This material is not listed.
- Illinois Toxic Substances Disclosure to Employee Act**: This material is not listed.
- Louisiana Reporting**: This material is not listed.
- Louisiana Spill**: This material is not listed.
- Massachusetts Spill**: This material is not listed.
- Massachusetts Substances**: This material is listed.
- Michigan Critical Material**: This material is not listed.
- Minnesota Hazardous Substances**: This material is not listed.
- New Jersey Hazardous Substances**: This material is listed.
- New Jersey Spill**: This material is not listed.
- New Jersey Toxic Catastrophe Prevention Act**: This material is not listed.
- New York Acutely Hazardous Substances**: This material is not listed.
- New York Toxic Chemical Release Reporting**: This material is not listed.
- Pennsylvania RTK Hazardous Substances**: This material is listed.
- Rhode Island Hazardous Substances**: This material is not listed.

Canada

WHMIS (Canada) : Class A: Compressed gas.
Class C: Oxidizing material.

Oxygen

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

United States

Label requirements : **GAS:**
OXIDIZER.
CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
CONTENTS UNDER PRESURE.
Do not puncture or incinerate container.
May cause severe frostbite.
LIQUID:
OXIDIZER.
CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
Extremely cold liquid and gas under pressure.
May cause severe frostbite.

Canada

Label requirements : **Class A:** Compressed gas.
Class C: Oxidizing material.

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

Health	0
Flammability	0
Physical hazards	0

liquid:

Health	3
Fire hazard	0
Reactivity	0
Personal protection	

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



liquid:



Notice to reader

Oxygen

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: Oxygen, Compressed

P-4638-H

Date: December 2009

Praxair Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name: Oxygen, compressed (MSDS No. P-4638-H)	Trade Names: Oxygen, MediPure® Oxygen
Chemical Name: Oxygen	Synonyms: Dioxygen
Chemical Family: Permanent gas	Product Grades: Industrial, Oxygen Aviator's Breathing, USP, 2.6, 2.6-Zero, 4.0-Hydrocarbon Free, 4.3-UHP, 5.0-Research, 6.0
Telephone: Emergencies: 1-800-645-4633* CHEMTREC: 1-800-424-9300* Routine: 1-800-PRAXAIR	Company Name: Praxair, Inc. 39 Old Ridgebury Road Danbury, CT 06810-5113

*Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier, Praxair sales representative, or call 1-800-PRAXAIR (1-800-772-9247).

2. Hazards Identification

EMERGENCY OVERVIEW

**WARNING! High-pressure, oxidizing gas.
Vigorously accelerates combustion.
Self-contained breathing apparatus may be required by rescue workers.
Under ambient conditions, this is a colorless, odorless, and tasteless gas.**

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communications Standard (29 CFR 1910.1200).

POTENTIAL HEALTH EFFECTS:

Effects of a Single (Acute) Overexposure

Inhalation. Breathing 80 percent or more oxygen at atmospheric pressure for more than a few hours may cause nasal stuffiness, cough, sore throat, chest pain, and breathing difficulty. Breathing oxygen at higher pressure increases the likelihood of adverse effects within a shorter time period. Breathing pure oxygen under pressure may cause lung damage and also Central Nervous System (CNS) effects resulting in dizziness, poor coordination, tingling sensation, visual and hearing disturbances, muscular twitching, unconsciousness, and convulsions. Breathing oxygen under pressure may cause prolongation of adaptation to darkness and reduced peripheral vision.

Skin Contact. No harm expected.

Swallowing. This product is a gas at normal temperature and pressure.

Eye Contact. No harm expected.

Effects of Repeated (Chronic) Overexposure. No harm expected.

Other Effects of Overexposure. See section 11, Toxicological Information.

Medical Conditions Aggravated by Overexposure. See section 11, Toxicological Information.

CARCINOGENICITY: Oxygen is not listed by NTP, OSHA, or IARC.

POTENTIAL ENVIRONMENTAL EFFECTS: For further information, see section 12, Ecological Information.

3. Composition/Information on Ingredients

See section 16 for important information about mixtures.

COMPONENT	CAS NUMBER	CONCENTRATION
Oxygen	7782-44-7	>99%*

*The symbol > means "greater than."

4. First Aid Measures

INHALATION: Immediately remove to fresh air. If not breathing, give artificial respiration. Keep victim warm and at rest. Call a physician. Advise the physician that the victim has been exposed to a high concentration of oxygen.

SKIN CONTACT: Wash with soap and water; seek medical attention if discomfort persists.

SWALLOWING: This product is a gas at normal temperature and pressure.

EYE CONTACT: Flush eyes thoroughly with water. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Get medical attention if discomfort persists.

NOTES TO PHYSICIAN: Supportive treatment should include immediate sedation, anti-convulsive therapy if needed, and rest. See section 11, Toxicological Information.

5. Fire Fighting Measures

FLAMMABLE PROPERTIES: Oxidizing agent; vigorously accelerates combustion. Contact with flammable materials may cause fire or explosion.

SUITABLE EXTINGUISHING MEDIA: Vigorously accelerates combustion. Use media appropriate for surrounding fire. Water (e.g., safety shower) is the preferred extinguishing method for clothing fires.

PRODUCTS OF COMBUSTION: Not applicable.

PROTECTION OF FIREFIGHTERS: WARNING! High-pressure, oxidizing gas. Evacuate all personnel from danger area. Immediately deluge cylinders with water from maximum distance until cool; then move them away from fire area if without risk. Self-contained breathing apparatus may be required by rescue workers. On-site fire brigades must comply with OSHA 29 CFR 1910.156.

Specific Physical and Chemical Hazards. Heat of fire can build pressure in cylinder and cause it to rupture. Oxygen cylinders are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT.) No part of cylinder should be subjected to a temperature higher than 125°F (52°C). Smoking, flames, and electric sparks in the presence of enriched oxygen atmospheres are potential explosion hazards.

Protective Equipment and Precautions for Firefighters. Firefighters should wear self-contained breathing apparatus and full fire-fighting turnout gear.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

WARNING! High-pressure, oxidizing gas.

Personal Precautions. Shut off flow if without risk. Ventilate area or move cylinder to a well-ventilated area. Remove all flammable materials from vicinity. Oxygen must never be permitted to strike an oily surface, greasy clothes, or other combustible material.

Environmental Precautions. Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING: *Protect cylinders from damage.* Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open valve. If valve is hard to open, discontinue use and contact your supplier. Close cylinder valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the cylinder. High temperatures may damage the cylinder and could cause the pressure relief device to fail prematurely, venting the cylinder contents. For other precautions in using this mixture, see section 16.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store and use with adequate ventilation, away from oil, grease, and other hydrocarbons. Separate oxygen cylinders from flammables by at least 20 ft (6.1 m) or use a barricade of noncombustible material. This barricade should be at least 5 ft (1.53 m) high and have a fire resistance rating of at least ½ hour. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store only where temperature will not exceed 125°F (52°C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

RECOMMENDED PUBLICATIONS: For further information on storage, handling, and use, see Praxair publications P-14-153, *Guidelines for Handling Gas Cylinders and Containers*; P-15-276, *Storage and Safe Handling of Oxygen*; and P-3499, *Safety Precautions and Emergency Response Planning*. Obtain from your local supplier.

8. Exposure Controls/Personal Protection

See section 16 for important information on by-products generated during use in welding and cutting.

COMPONENT	OSHA PEL	ACGIH TLV-TWA (2009)
Oxygen	Not Established.	Not Established.

IDLH = Not available.

ENGINEERING CONTROLS:

Local Exhaust. Use a local exhaust system, if necessary, to prevent increased oxygen concentration and, in welding, to keep hazardous fumes and gases below the applicable exposure limits in the worker's breathing zone.

Mechanical (General). General exhaust ventilation may be acceptable if it can maintain a supply of air that is not too rich in oxygen and, during welding, can keep hazardous fumes and gases below applicable TLVs in the worker's breathing zone.

Special. None

Other. None

PERSONAL PROTECTIVE EQUIPMENT:

Skin Protection. Wear work gloves when handling cylinders; welding gloves for welding. Gloves must be free of oil and grease. Metatarsal shoes for cylinder handling. Select in accordance with OSHA 29 CFR 1910.132 and 1910.133. As needed for welding, wear hand, head, and body protection to help prevent injury from radiation and sparks. (See ANSI Z49.1.) At a minimum, this includes welder's gloves and protective goggles, and may include arm protectors, aprons, hats, shoulder protection, as well as substantial clothing. Regardless of protective equipment, never touch live electrical parts.

Eye/Face Protection. Wear safety glasses when handling cylinders. For welding, wear goggles with filter lens selected as per ANSI Z49.1. Provide protective screens and goggles, if necessary, to protect others. Select as per OSHA 29 CFR 1910.33

Respiratory Protection. None required. However, air supplied respirators are required while working in oxygen deficient atmospheres such as confined spaces.

9. Physical and Chemical Properties
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APPEARANCE:	Colorless, odorless, tasteless gas at normal temperature and pressure.	
ODOR:	None	
ODOR THRESHOLD:	Not available.	
PHYSICAL STATE:	Gas at normal temperature and pressure	
pH:	Not applicable.	
MELTING POINT at 1 atm:	-361.82°F (-218.79°C)	
BOILING POINT at 1 atm:	-297.36°F (-182.98°C)	
FLASH POINT (test method):	-62°F (-52.2°C) TCC ASTM D56	
EVAPORATION RATE (Butyl Acetate = 1):	Not applicable.	
FLAMMABILITY:	Not applicable.	
FLAMMABLE LIMITS IN AIR, % by volume:	LOWER: Not applicable.	UPPER: Not applicable.
VAPOR PRESSURE at 68°F (20°C):	Not applicable.	
VAPOR DENSITY at 70°F (21.1°C) and 1 atm:	0.0827 lb/ft ³ (1.325 kg/m ³)	
SPECIFIC GRAVITY (H₂O = 1) at boiling point	1.141	
SPECIFIC GRAVITY (Air = 1) at 70°F (21.1°C) and 1 atm:	1.105	
SOLUBILITY IN WATER, vol/vol at 32°F (0°C):	0.0489	
PARTITION COEFFICIENT: n-octanol/water:	Not available.	

AUTOIGNITION TEMPERATURE:	Not applicable.
DECOMPOSITION TEMPERATURE:	Not available.
PERCENT VOLATILES BY VOLUME:	100
MOLECULAR WEIGHT:	31.9988
MOLECULAR FORMULA:	O ₂

10. Stability and Reactivity

CHEMICAL STABILITY: Unstable Stable

CONDITIONS TO AVOID: None known.

INCOMPATIBLE MATERIALS: Combustible materials, asphalt, flammable materials, especially oils and greases. Oxygen reacts with many materials.

HAZARDOUS DECOMPOSITION PRODUCTS: None known.

POSSIBILITY OF HAZARDOUS REACTIONS: May Occur Will Not Occur

11. Toxicological Information

ACUTE DOSE EFFECTS: The welding process may generate hazardous fumes and gases. (See sections 2, 10, 15, and 16.)

At atmospheric concentration and pressure, oxygen poses no toxicity hazards. At high concentrations, newborn premature infants may suffer delayed retinal damage (retrolental fibroplasia) that can progress to retinal detachment and blindness. Retinal damage may also occur in adults exposed to 100% oxygen for extended periods (24 to 48 hours) or at pressures exceeding atmospheric pressure, particularly in individuals whose retinal circulation has been previously compromised. All individuals exposed for long periods to oxygen at high pressure and all who exhibit overt oxygen toxicity should have ophthalmologic examinations.

At two or more atmospheres, CNS toxicity occurs. Symptoms include nausea, vomiting, dizziness or vertigo, muscle twitching, vision changes, and loss of consciousness and generalized seizures. At three atmospheres, CNS toxicity occurs in less than two hours; at six atmospheres, in only a few minutes. Patients with chronic obstructive pulmonary disease retain carbon dioxide abnormally. If oxygen is administered, raising their blood-oxygen concentration, their breathing becomes depressed, and retained carbon dioxide rises to a dangerous level.

Airway obstruction during high oxygen tension may cause alveolar collapse following absorption of the oxygen. Similarly, occlusion of the eustachian tubes may cause retraction of the eardrum, and obstruction of the paranasal sinuses may produce vacuum-type headache.

STUDY RESULTS: Animal studies suggest that the administration of certain drugs, including phenothiazine drugs and chloroquine, increases the susceptibility to toxicity from oxygen at high concentrations or pressures. Animal studies also indicate that vitamin E deficiency may increase susceptibility to oxygen toxicity.

12. Ecological Information

ECOTOXICITY: No known effects.

OTHER ADVERSE EFFECTS: The atmosphere contains approximately 21 percent oxygen. No adverse ecological effects expected. Oxygen does not contain any Class I or Class II ozone-depleting chemicals.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier. For emergency disposal, secure cylinder in a well-ventilated area or outdoors; then slowly discharge gas to the atmosphere.

14. Transport Information

DOT/IMO SHIPPING NAME: Oxygen, compressed

HAZARD CLASS:	PACKING GROUP/Zone:	IDENTIFICATION NUMBER:	PRODUCT RQ:
2.2	NA*	UN1072	None

SHIPPING LABEL(s): OXYGEN. An oxygen label may be used for domestic shipment in the United States and Canada in place of the NONFLAMMABLE GAS and OXIDIZER labels (49 CFR Part 172).

PLACARD (when required): NONFLAMMABLE GAS or OXYGEN

*Not available.

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, nonventilated compartment of a vehicle can present serious safety hazards.

Shipment of compressed gas cylinders that have been filled without the owner's consent is a violation of federal law [49 CFR 173.301(b)].

MARINE POLLUTANTS: Oxygen is not listed as a marine pollutant by DOT.

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

U.S. FEDERAL REGULATIONS:

EPA (ENVIRONMENTAL PROTECTION AGENCY)

CERCLA: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (40 CFR Parts 117 and 302):

Reportable Quantity (RQ): None

SARA: SUPERFUND AMENDMENT AND REAUTHORIZATION ACT:

SECTIONS 302/304: Require emergency planning based on Threshold Planning Quantity (TPQ) and release reporting based on Reportable Quantities (RQ) of Extremely Hazardous Substances (EHS) (40 CFR Part 355):

TPQ: None

EHS RQ (40 CFR 355): None

SECTIONS 311/312: Require submission of MSDSs and reporting of chemical inventories with identification of EPA hazard categories. The hazard categories for this product are as follows:

IMMEDIATE: No

PRESSURE: Yes

DELAYED: No

REACTIVITY: No

FIRE: Yes

SECTION 313: Requires submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372.

Oxygen is not subject to reporting under Section 313.

40 CFR 68: RISK MANAGEMENT PROGRAM FOR CHEMICAL ACCIDENTAL RELEASE PREVENTION: Requires development and implementation of risk management programs at facilities that manufacture, use, store, or otherwise handle regulated substances in quantities that exceed specified thresholds.

Oxygen is not listed as a regulated substance.

TSCA: TOXIC SUBSTANCES CONTROL ACT: Oxygen is listed on the TSCA inventory.

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR 1910.119: PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: Requires facilities to develop a process safety management program based on Threshold Quantities (TQ) of highly hazardous chemicals.

Oxygen is not listed in Appendix A as a highly hazardous chemical.

STATE REGULATIONS:

CALIFORNIA: Oxygen is not listed by California under the SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (Proposition 65).

PENNSYLVANIA: Oxygen is subject to the PENNSYLVANIA WORKER AND COMMUNITY RIGHT-TO-KNOW ACT (35 P.S. Sections 7301-7320).

16. Other Information

Read and understand all labels and instructions supplied with all containers of this product.

WARNING: Medical grades of oxygen are subject to strict federal regulations and are for use only under the control of a licensed physician or clinician familiar with the product and its hazards.

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE: *High-pressure, oxidizing gas.* Clean all gauges, valves, regulators, piping, and equipment to be used in oxygen service in accordance with CGA pamphlet G-4.1. Keep cylinders and their valves free of oil and grease. Use piping and equipment adequately designed to withstand pressures to be encountered. Use a backflow prevention device in any piping. Never use oxygen as a substitute for compressed air. Never use an oxygen jet for cleaning purposes of any sort, especially for clothing. Oxygen increases the likelihood of an engulfing fire. Never work on a pressurized system. If a leak occurs, close the cylinder valve. Blow down the system in a safe and environmentally sound manner in compliance with all federal, state, and local laws; then repair the leak. Never place a compressed gas cylinder where it may become part of an electrical circuit.

Personnel who have been exposed to high concentrations of oxygen should stay in a well-ventilated or open area before going into a confined space or near an ignition source.

SPECIAL PRECAUTIONS: Use in welding and cutting. Read and understand the manufacturer's instructions and the precautionary label on the product. Ask your welding products supplier for a copy of Praxair's free safety booklet, P-2035, *Precautions and Safe Practices for Gas Welding, Cutting, and Heating*, and for other manufacturers' safety publications. For a detailed treatment, get ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society (AWS), 550 N.W. Le Jeune Rd., Miami, FL 33126, <http://www.aws.org/>, or see OSHA's Web site at <http://www.osha-slc.gov/SLTC/weldingcuttingbrazing/>. Order AWS documents from Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112-5710, <http://global.ihc.com/>.

Arcs and sparks can ignite combustible materials. Prevent fires. Refer to NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hotwork. Do not strike an arc on the cylinder. The defect produced by an arc burn could lead to cylinder rupture.

Mixtures. When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Remember, chemicals have properties that can cause serious injury or death.

HAZARD RATING SYSTEMS:

NFPA RATINGS:

HEALTH = 0
 FLAMMABILITY = 0
 INSTABILITY = 0
 SPECIAL = OX

HMIS RATINGS:

HEALTH = 0
 FLAMMABILITY = 0
 PHYSICAL HAZARD = 3

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA:

THREADED:

0-3000 psig CGA-540
 3001-4000 psig CGA-577
 4001-5500 psig CGA-701

PIN-INDEXED YOKE:

0-3000 psig CGA-870 (Medical Use)

ULTRA-HIGH-INTEGRITY CONNECTION:

0-3000 psig CGA-714

Use the proper CGA connections. **DO NOT USE ADAPTERS.** Additional limited-standard connections may apply. See CGA pamphlet V-1 listed below.

Ask your supplier about free Praxair safety literature as referred to in this MSDS and on the label for this product. Further information can be found in the following pamphlets published by the Compressed Gas Association, Inc. (CGA), 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923, Telephone (703) 788-2700, <http://www.cganet.com/Publication.asp>

AV-1	<i>Safe Handling and Storage of Compressed Gases</i>
AV-8	<i>Characteristics and Safe Handling of Cryogenic Liquid and Gaseous Oxygen</i>
G-4	<i>Oxygen</i>
G-4.1	<i>Cleaning Equipment for Oxygen Service</i>
P-1	<i>Safe Handling of Compressed Gases in Containers</i>
P-2	<i>Characteristics and Safe Handling of Medical Gases</i>
P-39	<i>Oxygen-Rich Atmospheres</i>
SB-2	<i>Oxygen-Deficient Atmospheres</i>
SB-8	<i>Use of Oxy-Fuel Gas Welding and Cutting Apparatus</i>
V-1	<i>Compressed Gas Cylinder Valve Inlet and Outlet Connections</i>
—	<i>Handbook of Compressed Gases, Fourth Edition</i>

Praxair asks users of this product to study this MSDS and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this MSDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

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Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113

Material Safety Data Sheet

Airgas

Acetylene

Section 1. Chemical product and company identification

Product name : Acetylene
 Supplier : AIRGAS INC., on behalf of its subsidiaries
 259 North Radnor-Chester Road
 Suite 100
 Radnor, PA 19087-5283
 1-610-687-5253

Product use : Synthetic/Analytical chemistry.

Synonym : acetylen; acetylene ; ethine; ethyne; narcylen

MSDS # : 001001

Date of Preparation/Revision : 5/11/2011.

In case of emergency : 1-866-734-3438

Section 2. Hazards identification

Physical state : Gas.

Emergency overview : WARNING!
 FLAMMABLE GAS.
 MAY CAUSE FLASH FIRE.
 MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
 CONTENTS UNDER PRESSURE.

Keep away from heat, sparks and flame. Do not puncture or incinerate container. May cause target organ damage, based on animal data. Use only with adequate ventilation. Keep container closed.

Contact with rapidly expanding gases can cause frostbite.

Target organs : May cause damage to the following organs: lungs, upper respiratory tract, central nervous system (CNS).

Routes of entry : Inhalation

Potential acute health effects

Eyes : Contact with rapidly expanding gas may cause burns or frostbite.

Skin : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : Acts as a simple asphyxiant.

Ingestion : Ingestion is not a normal route of exposure for gases

Potential chronic health effects

Chronic effects : May cause target organ damage, based on animal data.

Target organs : May cause damage to the following organs: lungs, upper respiratory tract, central nervous system (CNS).

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

Section 3. Composition, Information on Ingredients

<u>Name</u>	<u>CAS number</u>	<u>% Volume</u>	<u>Exposure limits</u>
Acetylene	74-86-2	100	NIOSH REL (United States, 6/2009). CEIL: 2662 mg/m ³ CEIL: 2500 ppm

Acetylene

Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Frostbite** : Try to warm up the frozen tissues and seek medical attention.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : As this product is a gas, refer to the inhalation section.

Section 5. Fire-fighting measures

- Flammability of the product** : Flammable.
- Auto-ignition temperature** : 305°C (581°F)
- Flash point** : Closed cup: -18.15°C (-0.7°F).
- Flammable limits** : Lower: 2.5% Upper: 100%
- Products of combustion** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
- Fire hazards in the presence of various substances** : Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and oxidizing materials.
- Fire-fighting media and instructions** : In case of fire, use water spray (fog), foam or dry chemical.
- In case of fire, allow gas to burn if flow cannot be shut off immediately. Apply water from a safe distance to cool container and protect surrounding area. If involved in fire, shut off flow immediately if it can be done without risk.
- Contains gas under pressure. Flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Shut off gas supply if this can be done safely. Isolate area until gas has dispersed.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Acetylene

Section 7. Handling and storage

- Handling** : Use only with adequate ventilation. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. High pressure gas. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Keep container closed. Keep away from heat, sparks and flame. To avoid fire, eliminate ignition sources. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
- Storage** : Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Segregate from oxidizing materials. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

- Engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Personal protection

- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Personal protection in case of a large spill** : Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product.

Product name

- Ethyne** : NIOSH REL (United States, 6/2009).
CEIL: 2662 mg/m³
CEIL: 2500 ppm

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

- Molecular weight** : 26.04 g/mole
- Molecular formula** : C₂H₂
- Melting/freezing point** : Sublimation temperature: -81.8°C (-115.2 to °F)
- Critical temperature** : 35.3°C (95.5°F)
- Vapor pressure** : 635 (psig)
- Vapor density** : 0.907 (Air = 1)
- Specific Volume (ft³/lb)** : 14.7058
- Gas Density (lb/ft³)** : 0.0691 (-80°C / -112 to °F)

Acetylene

Section 10. Stability and reactivity

- Stability and reactivity : The product is stable.
- Incompatibility with various substances : Extremely reactive or incompatible with the following materials: oxidizing materials.
- Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Toxicity data

- Chronic effects on humans : May cause damage to the following organs: lungs, upper respiratory tract, central nervous system (CNS).
- Other toxic effects on humans : No specific information is available in our database regarding the other toxic effects of this material to humans.

Specific effects

- Carcinogenic effects : No known significant effects or critical hazards.
- Mutagenic effects : No known significant effects or critical hazards.
- Reproduction toxicity : No known significant effects or critical hazards.

Section 12. Ecological information

Aquatic ecotoxicity


Not available.



- Products of degradation : Products of degradation: carbon oxides (CO, CO₂) and water.
- Environmental fate : Not available.
- Environmental hazards : This product shows a low bioaccumulation potential.
- Toxicity to the environment : Not available.

Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1001	ACETYLENE, DISSOLVED	2.1	Not applicable (gas).		Limited quantity Yes. Packaging instruction Passenger aircraft Quantity limitation: Forbidden. Cargo aircraft Quantity limitation: 15 kg

Acetylene						
TDG Classification	UN1001	ACETYLENE, DISSOLVED	2.1	Not applicable (gas).		Explosive Limit and Limited Quantity Index 0 Passenger Carrying Ship Index 75 Passenger Carrying Road or Rail Index Forbidden Special provisions 38, 42
Mexico Classification	UN1001	ACETYLENE, DISSOLVED	2.1	Not applicable (gas).		-

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Section 15. Regulatory information

United States

U.S. Federal regulations : **TSCA 8(a) IUR:** Partial exemption
United States inventory (TSCA 8b): This material is listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Ethyne
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
 Ethyne: Fire hazard, reactive, Sudden release of pressure, Immediate (acute) health hazard
Clean Air Act (CAA) 112 accidental release prevention - Flammable Substances:
 Acetylene

State regulations : **Clean Air Act (CAA) 112 regulated flammable substances:** Ethyne
Connecticut Carcinogen Reporting: This material is not listed.
Connecticut Hazardous Material Survey: This material is not listed.
Florida substances: This material is not listed.
Illinois Chemical Safety Act: This material is not listed.
Illinois Toxic Substances Disclosure to Employee Act: This material is not listed.
Louisiana Reporting: This material is not listed.
Louisiana Spill: This material is not listed.
Massachusetts Spill: This material is not listed.
Massachusetts Substances: This material is listed.
Michigan Critical Material: This material is not listed.
Minnesota Hazardous Substances: This material is not listed.
New Jersey Hazardous Substances: This material is listed.
New Jersey Spill: This material is not listed.
New Jersey Toxic Catastrophe Prevention Act: This material is not listed.
New York Acutely Hazardous Substances: This material is not listed.
New York Toxic Chemical Release Reporting: This material is not listed.
Pennsylvania RTK Hazardous Substances: This material is listed.

Acetylene

Rhode Island Hazardous Substances: This material is not listed.

Canada

WHMIS (Canada) : Class A: Compressed gas.
Class B-1: Flammable gas.
Class F: Dangerously reactive material.
CEPA Toxic substances: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

Section 16. Other information

United States

Label requirements : FLAMMABLE GAS.
MAY CAUSE FLASH FIRE.
MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
CONTENTS UNDER PRESSURE.

Canada

Label requirements : Class A: Compressed gas.
Class B-1: Flammable gas.
Class F: Dangerously reactive material.

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

Health	1
Flammability	4
Physical hazards	2

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



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: Acetylene, Dissolved

P-4559-K

Date: December 2009

Praxair Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name: Acetylene, dissolved (MSDS No. P-4559-K)	Trade Names: Acetylene
Chemical Name: Acetylene	Synonyms: Acetylen, ethine, ethyne, narcylene
Chemical Family: Alkyne	Product Grades: Industrial, 2.6 atomic absorption
Telephone: Emergencies: 1-800-645-4633* CHEMTREC: 1-800-424-9300* Routine: 1-800-PRAXAIR	Company Name: Praxair, Inc. 39 Old Ridgebury Road Danbury, CT 06810-5113

*Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier, Praxair sales representative, or call 1-800-PRAXAIR (1-800-772-9247).

2. Hazards Identification

EMERGENCY OVERVIEW

**DANGER! Flammable gas under pressure.
Can form explosive mixtures with air.
Fusible plugs in top, bottom, or valve melt at 208-224°F (98-107°C).
Do not discharge at pressures above 15 psig (103 kPa).
May cause dizziness and drowsiness.
Self-contained breathing apparatus may be required by rescue workers.
At normal temperature and pressure, commercial acetylene is a colorless gas with a distinctive garlic-like odor.**

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communications Standard (29 CFR 1910.1200).

POTENTIAL HEALTH EFFECTS:

Effects of a Single (Acute) Overexposure

Inhalation. Asphyxiant. Effects are due to lack of oxygen. Moderate concentrations may cause headache, drowsiness, dizziness, excitation, excess salivation, nausea, vomiting, and unconsciousness. The vapor from a liquid release may also cause incoordination, abdominal pain. Effects may be delayed. Lack of oxygen can kill.

Skin Contact. No harm expected from vapor. Liquid may cause frostbite.

Swallowing. An unlikely route of exposure, but frostbite of the lips and mouth may result from contact with the liquid. If swallowed, the liquid may cause nausea.

Eye Contact. Vapors containing acetone may irritate the eyes. Liquid may irritate and cause frostbite.

Effects of Repeated (Chronic) Overexposure. No harm expected.

Other Effects of Overexposure. Asphyxiant. Lack of oxygen can kill.

Medical Conditions Aggravated by Overexposure. The toxicology and the physical and chemical properties of this product suggest that overexposure is unlikely to aggravate existing medical conditions.

CARCINOGENICITY: This product is not listed by NTP, OSHA, or IARC.

POTENTIAL ENVIRONMENTAL EFFECTS: None expected. For further information, see section 12, Ecological Information.

3. Composition/Information on Ingredients

This section covers materials of manufacture only. See sections 8, 10, 11, 15, and 16 for information on by-products generated during use, especially use in welding and cutting. See section 16 for important information about mixtures.

COMPONENT	CAS NUMBER	CONCENTRATION
Acetylene	74-86-2	>99%*

*The symbol > means "greater than."

NOTE: Acetylene cylinders are filled with a porous material containing acetone (CAS 67-64-1) into which the acetylene is dissolved.

4. First Aid Measures

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Call a physician.

SKIN CONTACT: For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). In case of massive exposure, remove contaminated clothing while showering with warm water. Call a physician.

SWALLOWING: If liquid is swallowed, immediately give two glasses of water and induce vomiting if victim is conscious. Call a physician.

EYE CONTACT: In case of splash contamination, immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are thoroughly flushed. See a physician, preferably an ophthalmologist, immediately.

NOTES TO PHYSICIAN: Aspirated acetone may cause severe lung damage. If a large quantity of material has been swallowed, stomach contents should be evacuated quickly in a manner that avoids aspiration. Otherwise, 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

FLAMMABLE PROPERTIES: Extremely flammable gas. Forms explosive mixtures with air and oxidizing agents.

SUITABLE EXTINGUISHING MEDIA: See the following paragraphs. See CGA Pamphlet SB-4, *Handling Acetylene Cylinders in Fire Situations*, listed in section 16, for further information.

PRODUCTS OF COMBUSTION: Carbon monoxide, carbon dioxide

PROTECTION OF FIREFIGHTERS: DANGER! Flammable gas under pressure. Evacuate all personnel from danger area. Immediately cool cylinders with water spray from maximum distance, taking care not to extinguish flames. If flames are accidentally extinguished, explosive re-ignition may occur. Use self-contained breathing apparatus. Remove ignition sources if without risk. Stop flow of gas if without risk while continuing cooling water spray. Remove all cylinders from area of fire if without risk. Allow fire to burn out. On-site fire brigades must comply with OSHA 29 CFR 1910.156.

Specific Physical and Chemical Hazards. Heat of fire can build pressure in cylinder and cause it to rupture. Acetylene cylinders are provided with pressure relief devices designed to vent contents when exposed to elevated temperature. No part of a cylinder should be subjected to a temperature higher than 125°F (52°C). If venting or leaking acetylene catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with an approved explosion meter.

Protective Equipment and Precautions for Firefighters. Firefighters should wear self-contained breathing apparatus and full fire-fighting turnout gear.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

DANGER! Flammable gas under pressure.

Personal Precautions. Forms explosive mixtures with air. Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if without risk. Reduce vapors with fog or fine water spray. Shut off flow if without risk. Ventilate area or move leaking cylinder to well-ventilated area. Flammable gas may spread from leak. Before entering area, especially confined areas, check atmosphere with an appropriate device.

Environmental Precautions. Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING: Keep away from heat, sparks, and open flame. Use only spark-proof tools and explosion-proof equipment. Never use acetylene at pressures exceeding 15 psig (103.5 kPa). Can cause rapid suffocation due to oxygen deficiency. Close valve after each use; keep closed even when empty. Arcs and sparks can ignite combustible materials. Prevent fires. For more information on fire prevention in welding and cutting, see NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hotwork*, published by the National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA

02269-9101; 1-800-344-3555; www.nfpa.org. Do not strike an arc on a compressed gas cylinder. The defect produced by an arc burn could lead to cylinder rupture.

PRECAUTIONS TO BE TAKEN IN STORAGE: Acetylene storage in excess of 2,500 cu ft (70.79 m³) is prohibited in buildings with other occupancies. Store and use with adequate ventilation. Separate acetylene cylinders from oxygen and other oxidizers by at least 20 ft (6.1 m), or use a barricade of noncombustible material. This barricade should be at least 5 ft (1.53 m) high and have a fire resistance rating of at least ½ hour. Post "No Smoking or Open Flames" signs in storage and use areas. There must be no sources of ignition. All electrical equipment in storage areas must be explosion-proof. Storage areas must meet national electric codes for Class 1 hazardous areas. Store only where temperature will not exceed 125°F (52°C). For other precautions in using acetylene, see section 16.

RECOMMENDED PUBLICATIONS: For further information on storage, handling, and use, see Praxair publication P-14-153, *Guidelines for Handling Gas Cylinders and Containers*. Obtain from your local supplier.

8. Exposure Controls/Personal Protection

See section 16 for important information on by-products generated during use in welding and cutting.

COMPONENT	OSHA PEL	ACGIH TLV-TWA (2009)
Acetylene	N.E.*	Simple asphyxiant

*N.E.—Not Established.

NOTE: Acetone, used as a solvent, has a TLV-TWA of 500 ppm for acetone and a TLV-STEL of 750 ppm (ACGIH, 2009). OSHA PEL, 1000 ppm (2400 mg/m³).

TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations.

IDLH = Not available.

ENGINEERING CONTROLS:

Local Exhaust. Use a local exhaust system, if necessary, to prevent oxygen deficiency and to keep hazardous fumes and gases in the worker's breathing zone below all applicable exposure limits.

Mechanical (General). General exhaust ventilation may be acceptable if it can maintain an adequate supply of air and keep hazardous fumes and gases in the worker's breathing zone below all applicable exposure limits.

Special. None

Other. None

PERSONAL PROTECTIVE EQUIPMENT:

Skin Protection. Wear work gloves when handling cylinders; welding gloves for welding and cutting.

Eye/Face Protection. Wear goggles with filter lenses selected as per ANSI Z49.1. Provide protective screens and goggles, if necessary, to protect others. Select as per OSHA 29 CFR 1910.33. For welding, see section 16.

Respiratory Protection. A respiratory protection program that meet OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable) requirements must be followed

whenever workplace conditions warrant respirator use. Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus. Adequate ventilation must keep worker exposure below applicable exposure limits for fumes, gases, and other by products of welding.

Other Protective Equipment. As needed, wear hand, head, and body protection, which help to prevent injury from radiation and sparks. See ANSI Z49.1. At a minimum, this includes welder's gloves and protective goggles, and may include arm protectors, aprons, hats, and shoulder protection, as well as substantial clothing. Regardless of protective equipment, never touch live electrical parts.

9. Physical and Chemical Properties

APPEARANCE:	Colorless gas
ODOR:	Acetylene of 100% purity is odorless, but commercial acetylene has a distinctive, garlic-like odor.
ODOR THRESHOLD:	Not available.
PHYSICAL STATE:	Gas at normal temperature and pressure
pH:	Not applicable.
SUBLIMATION POINT at 1 atm:	-118°F (-83.3°C)
MELTING POINT at 10 psig (170 kPa abs):	-116°F (-82.2°C)
BOILING POINT at 10 psig (170 kPa abs):	-103.4°F (-75.2°C)
FLASH POINT:	-0°F (-17.8°C)
EVAPORATION RATE (Butyl Acetate = 1):	Not applicable.
FLAMMABILITY:	Flammable
FLAMMABLE LIMITS IN AIR, % by volume:	LOWER: 2.5% UPPER: 100%
VAPOR PRESSURE at 70°F (21.1°C):	649.6 psia (4479 kPa abs)*
VAPOR DENSITY at 32°F (0°C) and 1 atm:	0.07314 lb/ft ³ (1.1716 kg/m ³)
SPECIFIC GRAVITY (H₂O = 1):	Not applicable.
SPECIFIC GRAVITY (Air = 1) at 32°F (0°C) and 1 atm:	0.906
SOLUBILITY IN WATER vol/vol at 32°F (0°C):	1.7
PARTITION COEFFICIENT: n-octanol/water:	Not available.
AUTOIGNITION TEMPERATURE:	581°F (305°C) at 1 atm
DECOMPOSITION TEMPERATURE:	Not available.
PERCENT VOLATILES BY VOLUME:	100
MOLECULAR WEIGHT:	26.04
MOLECULAR FORMULA:	C ₂ H ₂

*Maximum cylinder pressure: 250 psig (kPa) at 70°F (21.1°C)

10. Stability and Reactivity

CHEMICAL STABILITY: Unstable Stable

Acetylene is stable as shipped. Avoid use at pressures above 15 psig (103 kPa).

CONDITIONS TO AVOID: Elevated temperature and pressure and/or the presence of a catalyst.

INCOMPATIBLE MATERIALS: Copper, silver, mercury, or their alloys; oxidizing agents; acids; halogens; moisture.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition or burning may produce CO/CO₂H₂. The welding and cutting process may form reaction products such as CO and CO₂. Other decomposition products of normal operation originate from the volatilization, reaction, or oxidation of the material being worked.

POSSIBILITY OF HAZARDOUS REACTIONS: May Occur Will Not Occur

Fire or explosion may result from use at elevated temperatures and pressures or from use with incompatible materials.

11. Toxicological Information

ACUTE DOSE EFFECTS: No known effects from acetylene gas. The welding process may generate hazardous fumes and gases. (See sections 8, 10, 15, and 16.)

12. Ecological Information

ECOTOXICITY: No adverse ecological effects expected.

OTHER ADVERSE EFFECTS: None known. Acetylene does not contain any Class I or Class II ozone-depleting chemicals.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.

14. Transport Information

DOT/IMO SHIPPING NAME: Acetylene, dissolved.

HAZARD CLASS:	PACKING GROUP/Zone:	IDENTIFICATION NUMBER:	PRODUCT RQ:
2.1	None	UN1001	None

SHIPPING LABEL(s): FLAMMABLE GAS

PLACARD (when required): FLAMMABLE GAS

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, nonventilated compartment of a vehicle can present serious safety hazards.

Shipment of compressed gas cylinders that have been filled without the owner's consent is a violation of federal law [49 CFR 173.301(b)].

MARINE POLLUTANTS: Acetylene is not listed as a marine pollutant by DOT.

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

U.S. FEDERAL REGULATIONS:

EPA (ENVIRONMENTAL PROTECTION AGENCY)

CERCLA: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (40 CFR Parts 117 and 302):

Reportable Quantity (RQ): None

SARA: SUPERFUND AMENDMENT AND REAUTHORIZATION ACT:

SECTIONS 302/304: Require emergency planning based on Threshold Planning Quantity (TPQ) and release reporting based on Reportable Quantities (RQ) of Extremely Hazardous Substances (EHS) (40 CFR Part 355):

TPQ: None

EHS RQ (40 CFR 355): None

SECTIONS 311/312: Require submission of MSDSs and reporting of chemical inventories with identification of EPA hazard categories. The hazard categories for this product are as follows:

IMMEDIATE: No

PRESSURE: Yes

DELAYED: No

REACTIVITY: Yes

FIRE: Yes

SECTION 313: Requires submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372.

Acetylene is not subject to reporting under Section 313.

40 CFR 68: RISK MANAGEMENT PROGRAM FOR CHEMICAL ACCIDENTAL RELEASE PREVENTION: Requires development and implementation of risk management programs at facilities that manufacture, use, store, or otherwise handle regulated substances in quantities that exceed specified thresholds.

Acetylene is listed as a regulated substance in quantities of 10,000 lb (4536 kg) or greater.

TSCA: TOXIC SUBSTANCES CONTROL ACT: Acetylene is listed on the TSCA inventory.

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR 1910.119: PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: Requires facilities to develop a process safety management program based on Threshold Quantities (TQ) of highly hazardous chemicals.

Acetylene is not listed in Appendix A as a highly hazardous chemical. However, any process that involves a flammable gas on site in one location in quantities of 10,000 lb (4536 kg) or greater is covered under this regulation unless the gas is used as a fuel.

STATE REGULATIONS:

CALIFORNIA: Acetylene is not listed by California under the SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (Proposition 65).

PENNSYLVANIA: Acetylene is subject to the PENNSYLVANIA WORKER AND COMMUNITY RIGHT-TO-KNOW ACT (35 P.S. Sections 7301-7320).

16. Other Information

Read and understand all labels and instructions supplied with all containers of this product.

ADDITIONAL SAFETY AND HEALTH HAZARDS: Using this product in welding and cutting may create additional hazards.

Read and understand the manufacturer's instructions and the precautionary labels on the products used in welding and cutting. For other safe practices information and a more-detailed description of the health hazards of welding and their consequences, ask your welding products supplier for a copy of Praxair's free safety booklet, P-52-529, *Precautions and Safe Practices for Electric Welding and Cutting*, and for other manufacturers' safety publications. For a detailed treatment, get ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society (AWS), 550 N.W. Le Jeune Rd., Miami, FL 33126, <http://www.aws.org/>, or see OSHA's Web site at <http://www.osha-slc.gov/SLTC/weldingcuttingbrazing/>. Order AWS documents from Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112-5710, <http://global.ihc.com/>.

FUMES AND GASES can be dangerous to your health and may cause serious lung disease.

- **Keep your head out of fumes. Do not breathe fumes and gases. Use enough ventilation, local exhaust, or both to keep fumes and gases from your breathing zone and the general area. Short-term overexposure to fumes may cause dizziness, nausea, and dryness or irritation of the nose, throat, and eyes or may cause other similar discomfort.**

Fumes and gases cannot be classified simply. The amount and type depend on the metal being worked and the process, procedure, equipment, and supplies used. Possible dangerous materials may be found in fluxes, electrodes, and other materials. Get an MSDS for every material you use.

Contaminants in the air may add to the hazard of fumes and gases. One such contaminant, chlorinated hydrocarbon vapors from cleaning and degreasing activities, poses a special risk.

To find the quantity and content of fumes and gases, you can take air samples. By analyzing these samples, you can find out what respiratory protection you need. One recommended sampling method is to take air from inside the worker's helmet or from the worker's breathing zone. See AWS F1.1, *Methods for Sampling and Analyzing Gases for Welding and Allied Processes*, available from the American Welding Society, 550 N.W. Le Jeune Rd., Miami, FL 33126.

NOTES TO PHYSICIAN:

Acute: *Gases, fumes, and dusts may cause irritation to the eyes, lungs, nose, and throat. Some toxic gases associated with welding and related processes may cause pulmonary edema, asphyxiation, and death. Acute overexposure may include signs and symptoms such as watery eyes, nose and throat irritation, headache, dizziness, difficulty breathing, frequent coughing, or chest pains.*

Chronic: *Protracted inhalation of air contaminants may lead to their accumulation in the lungs, a condition that may be seen as dense areas on chest x-rays. The severity of change is proportional to the length of exposure. The changes seen are not necessarily associated with symptoms or signs of reduced lung function or disease. In addition, the changes on x-rays may be caused by non-work-related factors such as smoking, etc.*

PROTECTIVE CLOTHING AND EQUIPMENT FOR WELDING OPERATIONS:

PROTECTIVE GLOVES: Wear welding gloves.

EYE PROTECTION: Wear a helmet or use a face shield with a filter lens. Select lens per ANSI Z49.1. Provide protective screens and flash goggles if needed to protect others; select per OSHA 29 CFR 1910.133.

OTHER PROTECTIVE EQUIPMENT: Wear hand, head, and body protection. (See ANSI Z49.1.) Worn as needed, these help prevent injury from radiation, sparks, and electrical shock. Minimum protection includes welder's gloves and a face shield. For added protection, consider arm protectors, aprons, hats, shoulder protection, and dark, substantial clothing.

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE: *Flammable gas under pressure.* Use piping and equipment adequately designed to withstand pressures.

Acetylene systems should be installed only by persons with knowledge of the unique properties of acetylene and trained and experienced in such installation. All piped acetylene systems and associated equipment must be grounded. Electrical equipment must be non-sparking or explosion-proof. Leak check with soapy water; never use a flame. Use a backflow prevention device in any piping. In choosing tools and equipment, avoid materials incompatible with acetylene. Copper, silver, and mercury and their salts, compounds, and high-concentration alloys can form explosive compounds with acetylene. Never use copper piping for acetylene service; use only steel or wrought iron. Brass containing less than 65 percent copper and certain nickel alloys are generally acceptable for use in acetylene service but may not be adequate if high corrosion or excess moisture is present. Never work on a pressurized system. If there is a leak, close the cylinder valve. Blow down the system in an environmentally safe manner in compliance with all federal, state, and local laws; then repair the leak. Never place a compressed gas cylinder where it may become part of an electrical circuit.

Mixtures. When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Chemicals have properties that can cause serious injury or death.

HAZARD RATING SYSTEMS:

NFPA RATINGS:

HEALTH = 0
 FLAMMABILITY = 4
 INSTABILITY = 2
 SPECIAL = None

HMIS RATINGS:

HEALTH = 2
 FLAMMABILITY = 4
 PHYSICAL HAZARD = 2

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA:

THREADED:

The CGA-510 connection is standard for cylinders of greater than 50 cu ft (1.42 m³) capacity. See CGA Pamphlet V-1 for other, limited-standard connections.

PIN-INDEXED YOKE:

Not applicable.

ULTRA-HIGH-INTEGRITY CONNECTION:

Not applicable.

Use the proper CGA connections. **DO NOT USE ADAPTERS.** Additional limited-standard connections may apply. See CGA pamphlet V-1 listed below.

Ask your supplier about free Praxair safety literature as referred to in this MSDS and on the label for this product. Further information can be found in the following materials published by the Compressed Gas Association, Inc. (CGA), 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923, Telephone (703) 788-2700, <http://www.cganet.com/Publication.asp>.

AV-1	<i>Safe Handling and Storage of Compressed Gases</i>
G-1.1	<i>Commodity Specification for Acetylene</i>
G-1	<i>Acetylene</i>
P-1	<i>Safe Handling of Compressed Gases in Containers</i>
SB-4	<i>Handling Acetylene Cylinders in Fire Situations</i>
SB-8	<i>Use of Oxy-Fuel Gas Welding and Cutting Apparatus</i>
V-1	<i>Compressed Gas Cylinder Valve Inlet and Outlet Connections</i>
—	<i>Handbook of Compressed Gases, Fourth Edition</i>

Praxair asks users of this product to study this MSDS and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this MSDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

Praxair MSDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current MSDSs for these products, contact your Praxair sales representative or local distributor or supplier, or download from www.praxair.com. If you have questions regarding Praxair MSDSs, would like the form number and date of the latest MSDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (**Phone:** 1-800-PRAXAIR; **Address:** Praxair Call Center, Praxair, Inc., PO Box 44, Tonawanda, NY 14151-0044).

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Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113


MATERIAL SAFETY DATA SHEET FOR ODORIZED PROPANE**1. Chemical Product and Company Identification****Product Name:** Odorized Commercial Propane**Chemical Name:** Propane**Chemical Family:** Paraffinic Hydrocarbon**Formula:** C₃H₈**Synonyms:** Dimethylmethane, LP-Gas, Liquefied Petroleum Gas (LPG), Propane, Propyl Hydride**Transportation Emergency Number:****CHEMTREC 1-800-424-9300****Name & Address:****AmeriGas Propane, L.P.****P. O. Box 965****Valley Forge, PA. 19482****For General Information, Call:****1-888-808-0396, Safety Dept.****2. Composition / Information on Ingredients**

INGREDIENT NAME / CAS NUMBER	PERCENTAGE	OSHA PEL	ACGIH TLV
Propane / 74-98-6	87.5 -100	1,000 ppm	Simple asphyxiant
Ethane / 74-84-0	0 - 7.0		Simple asphyxiant
Propylene / 115-07-1	0 - 5.0		Simple asphyxiant
Butanes / 106-97-8	0 - 2.5	0.5 ppm	Simple asphyxiant
Ethyl Mercaptan / 75-08-1.....	0 - 50 ppm		0.5 ppm

WARNING: The intensity of the chemical odorant (e.g., ethyl mercaptan) may "fade" or diminish due to chemical oxidation, adsorption or absorption. Individuals with nasal perception problems may not be able to smell the odorant. Leaking propane from underground gas lines may lose its odor as it passes through certain soils. No odorant is effective 100% of the time. Therefore, circumstances can exist when individuals are in the presence of leaking propane and not be alerted by the smell. Contact AmeriGas for more information about odor, propane gas detectors and other safety considerations associated with the handling, storage and use of propane.

3. Hazards Identification**EMERGENCY OVERVIEW**

DANGER! Flammable liquefied gas under pressure. Keep away from heat, sparks, flame, and all other ignition sources. Vapor replaces oxygen available for breathing and may cause suffocation in confined spaces. Use only with adequate ventilation. Reliance upon detection of odor may not provide adequate warning of potentially hazardous concentrations. Vapor is heavier than air; may collect at low levels. Liquid can cause freeze burn similar to frostbite. Do not get liquid in eyes, on skin, or on clothing. Avoid breathing vapor. Keep service valve closed when not in use.

	FIRE HAZARD (Red)	
HEALTH HAZARD (Blue)		REACTIVITY (Yellow)
	SPECIAL HAZARDS*	
Minimal 0 Slight 1	Moderate 2 Serious 3	Severe 4 *(Ref. NFPA 704)

POTENTIAL HEALTH EFFECTS INFORMATION**ROUTES OF EXPOSURE:**

Inhalation: Asphyxiation. Before suffocation could occur, the lower flammability limit of propane in air would be exceeded, possibly causing both an oxygen-deficient and explosive atmosphere. Exposure to concentrations >10% may cause dizziness. Exposure to atmospheres containing 19% or less oxygen will bring about unconsciousness without warning. Lack of sufficient oxygen may cause serious injury or death.

Eye Contact: Contact with liquid can cause freezing of tissue.

Skin Contact: Contact with liquid can cause frostbite.

Skin Absorption: None.

Ingestion: Ingestion is not expected to occur in normal use. However, liquid can cause freeze burn similar to frostbite.

CHRONIC EFFECTS: None.**CARCINOGENICITY:** Propane is not listed by NTP, OSHA or IARC.**4. First Aid Measures**

INHALATION: Individuals suffering from lack of oxygen should be removed to fresh air. If victim is not breathing, administer artificial respiration. If breathing is difficult, administer oxygen. Obtain immediate medical assistance.

EYE CONTACT: Gently flush eyes with lukewarm water. Obtain immediate medical assistance.

SKIN CONTACT: Remove saturated clothes, shoes and jewelry. Immerse affected area in lukewarm water not exceeding 105° F. Keep immersed. Obtain immediate medical assistance.

INGESTION: If swallowed, obtain immediate medical assistance.

5. Fire-Fighting Measures

FLASH POINT: -156°F (-104°C)

AUTOIGNITION: 842°F (432°C)

IGNITION TEMPERATURE IN AIR: 920°F to 1120°F (493°C to 549°C)

FLAMMABLE LIMITS IN AIR (% by volume): Lower: 2.15% Upper: 9.6%

EXTINGUISHING MEDIA: Dry chemical, CO₂, water spray or fog for surrounding area. Do not attempt to extinguish fire until propane source is isolated.

SPECIAL FIRE-FIGHTING INSTRUCTIONS: Evacuate all unnecessary personnel from the area. Allow only properly trained and protected emergency response personnel in area. A NIOSH approved self-contained breathing apparatus may be required. If gas flow cannot be shut off, do not attempt to extinguish fire. Allow fire to burn itself out. Use high volume water supply to cool exposed pressure containers and nearby equipment. Approach a flame-enveloped container from the sides, never from the ends. Use extreme caution when applying water to a container that has been exposed to heat or flame for more than a short time. For uncontrollable fires and/or when flame is impinging on container, withdraw all personnel and evacuate vicinity immediately.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Propane is heavier than air and can collect in low areas. Flash back along a vapor trail is possible. Pressure in a container can build up due to heat; and, container may rupture suddenly and violently without warning if pressure relief devices fail to function properly. If flames are against the container, withdraw immediately on hearing a rising sound, if venting increases in volume or intensity or if there is discoloration of the container due to fire. Propane released from a properly functioning relief valve on an overheated container can also become ignited.

HAZARDOUS COMBUSTION PRODUCTS: None.

6. Accidental Release Measures

IF MATERIAL IS RELEASED OR SPILLED: Evacuate the immediate area. Eliminate any possible sources of ignition and provide maximum ventilation. Shut off source of propane, if possible. If leaking from container or valve, contact your supplier or AmeriGas immediately.

7. Handling and Storage

HANDLING PRECAUTIONS: Propane vapor is heavier than air and can collect in low areas that are without sufficient ventilation. Conduct system checks for leaks with a leak detector or solution, never with flame. Make certain the container service valve is shut off prior to connecting or disconnecting. If container valve does not operate properly, discontinue use and contact AmeriGas. Never insert an object (e.g., wrench, screwdriver, pry bar, etc.) into pressure relief valve or cylinder valve cap openings. Do not drop or abuse cylinders. Never strike an arc on a gas container or make a container part of an electrical circuit. See Section 16, "OTHER INFORMATION", for additional precautions.

STORAGE PRECAUTIONS: Store in a safe, authorized location (outside, detached storage is preferred) with adequate ventilation. Specific requirements are listed in NFPA 58, LP-GAS CODE. Isolate from heat and ignition sources. Containers should never be allowed to reach temperature exceeding 125°F (52°C). Isolate from combustible materials. Provide separate storage locations for other compressed and flammable gases. Propane containers should be separated from oxygen cylinders or other oxidizers by a minimum distance of 20 feet, or by a barrier of non-combustible material at least 5 feet high having a fire rating of at least 1/2 hour. Full and empty cylinders should be segregated. Keep cylinders in an upright position at all times so that each pressure relief valve communicates with the vapor space. Keep container valve closed and plugged or capped when not in use. Install protective caps when cylinders are not connected for use. Empty containers retain some residue and should be treated as if they were full.

8. Exposure Control / Personal Protection

ENGINEERING CONTROLS

Ventilation: Provide ventilation adequate to ensure propane does not reach a flammable mixture.

RESPIRATORY PROTECTION

General Use: None.

Emergency Use: If concentrations are high enough to warrant supplied-air or NIOSH self-contained breathing apparatus, then the atmosphere may be flammable (See Section 5). Appropriate precautions must be taken regarding flammability.

PROTECTIVE CLOTHING: Avoid skin contact with liquid propane because of possibility of freeze burn. Wear gloves and protective clothing that are impervious to the product for the duration of the anticipated exposure.

EYE PROTECTION: Safety glasses, goggles or face shields are recommended when handling cylinders.

OTHER PROTECTIVE EQUIPMENT: Safety shoes are recommended when handling cylinders.

9. Physical and Chemical Properties

BOILING POINT: @ 14.7 psia = -44° F (@1.00 atm.pressure = -42°C)

SPECIFIC GRAVITY OF VAPOR (Air = 1) at 60° F (15.56°C): 1.50

SPECIFIC GRAVITY OF LIQUID (Water = 1) at 60° F: 0.504

VAPOR PRESSURE: @ 70° F (20°C) = 127 psig; @ 105° F (45°C) = 210 psig; @ 130°F (55°C) = 287 psig

EXPANSION RATIO (From liquid to gas @ 14.7 psia): 1 to 270

SOLUBILITY IN WATER: Slight, 0.1 to 1.0%

APPEARANCE AND ODOR: A colorless and tasteless gas at normal temperature and pressure. An odorant (ethyl mercaptan) is added to provide a strong unpleasant odor. Should a propane-air mixture reach the lower limits of flammability, the ethyl mercaptan concentration will be approximately 0.5 ppm in air.

ODORANT WARNING: Odorant is added to aid in the detection of leaks. One common odorant is ethyl mercaptan, CAS No. 75-08-1. Odorant has a foul smell. The ability of people to detect odors varies widely. Also, the odor level can be reduced by certain chemical reactions with material in the propane system or when fugitive propane gas from underground leaks passes through certain soils. No odorant will be 100% effective in all circumstances. If the presence of the odorant is not obvious, notify AmeriGas immediately.

10. Stability and Reactivity

STABILITY: Stable.

Conditions to Avoid: Keep away from high heat, strong oxidizing agents and sources of ignition.

REACTIVITY:

Hazardous Decomposition Products: Under fire conditions, fumes, smoke, carbon monoxide, aldehydes and other decomposition products. In most applications where there is inadequate venting to the outside air, incomplete combustion will produce carbon monoxide (a toxic gas) and potentially develop concentrations that can create a serious health hazard.

Hazardous Polymerization: Will not occur.

11. Toxicological Information

Propane is non-toxic and is a simple asphyxiant. It has slight anesthetic properties. Higher concentrations may cause dizziness.

IRRITANCY OF MATERIAL: None.

REPRODUCTIVE EFFECTS: None

TERATOGENICITY: None

SENSITIZATION TO MATERIAL: None

MUTAGENICITY: None

SYNERGISTIC MATERIALS: None

12. Ecological Information

No adverse ecological effects are expected. Propane does not contain any Class I or Class II ozone-depleting chemicals (40 CFR Part 82). Propane is not listed as a marine pollutant by DOT (49 CFR Part 171).

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused product in the container; return it to your supplier or contact AmeriGas for safe disposal. Residual product within a process system may be burned at a controlled rate if a suitable burning unit is available on site, and is done in accordance with federal, state and local regulations.

14. Transport Information

DOT SHIPPING NAME: Liquefied Petroleum Gas

IDENTIFICATION NUMBER: UN 1075

IMO SHIPPING NAME: Propane

IMO IDENTIFICATION NUMBER: UN 1978

HAZARD CLASS: 2.1 (Flammable Gas)

PRODUCT RQ: None

SHIPPING LABEL (S): Flammable Gas

PLACARD (WHEN REQUIRED): Flammable Gas

SPECIAL SHIPPING INFORMATION: Container must be transported in a well-ventilated vehicle, secured, and in a position such that the pressure relief device is in communication with the vapor space.

15. Regulatory Information

The following information concerns U.S. Federal regulatory requirements potentially applicable to this product. Not all such requirements are identified. Users of this product are responsible for their own regulatory compliance on a federal, state [provincial] and local level.

U.S. FEDERAL REGULATIONS

Environmental Protection Agency (EPA)

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) - 40 CFR Parts 117 and 302

Reportable Quantity (RQ): None

Superfund Amendment and Reauthorization Act (SARA)

- Sections 302/304: Relates to emergency planning on threshold planning quantities (TPQ) and release reporting based on reportable quantities (RQ) of EPA's extremely hazardous substances (40 CFR Part 355).

Extremely Hazardous Substances: None

Threshold Planning Quantity (TPQ): None

- Sections 311/312: Relates to submission of material safety data sheets (MSDSs) and chemical inventory reporting with identification of EPA-defined hazard classes (40 CFR Part 370). The hazard classes for this product are:
IMMEDIATE: No **PRESSURE:** Yes **DELAYED:** No **REACTIVITY:** No **FLAMMABLE:** Yes
- Section 313: Relates to submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372. Propane does not require reporting under Section 313.

Toxic Substance Control Act (TSCA)

Propane is listed on the TSCA inventory.

Occupational Safety and Health Administration (OSHA)

The following 29 CFR Parts may apply to propane:

29 CFR 1910.110: *Storage and Handling of Liquefied Petroleum Gases*

29 CFR 1910.119: *Process Safety Management of Highly Hazardous Chemicals*

29 CFR 1910.1200: *Hazardous Communications*

Food and Drug Administration (FDA)

21 CFR 184.1655: Generally recognized as safe (GRAS) as a direct human food ingredient when used as a propellant, aerating agent and gas.

16. Other Information

SPECIAL PRECAUTIONS: Use piping and equipment adequately designed to withstand pressure to be encountered. NFPA 58, LP-GAS CODE and OSHA 29 CFR 1910.10 require that all persons employed in handling LP-gases be trained in proper handling and operating procedures, which the employer shall document. Contact your propane supplier or AmeriGas to arrange for the required training. Allow only trained and qualified persons to install and service propane containers and systems.

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Product: Propane

P-4646-G

Date: December 2007

Praxair Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name: Propane (MSDS No. P-4646-G)	Trade Names: Liquefied Petroleum Gas
Chemical Name: Propane	Synonyms: Dimethylmethane, N-propane, propyl hydride, propylhydride, refrigerant gas R290
Chemical Family: Alkane	Product Grades: Industrial, 2.0, 2.5 instrument, 4.0 research
Telephone:	Company Name: Praxair, Inc.
Emergencies: 1-800-645-4633*	39 Old Ridgebury Road
CHEMTREC: 1-800-424-9300*	Danbury, CT 06810-5113
Routine: 1-800-PRAXAIR	

*Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier, Praxair sales representative, or call 1-800-PRAXAIR (1-800-772-9247).

2. Hazards Identification

EMERGENCY OVERVIEW

DANGER! Flammable liquid and gas under pressure.
Can form explosive mixtures with air.
May cause frostbite.
May cause dizziness and drowsiness.
Self-contained breathing apparatus may be required by rescue workers.
Under ambient conditions, this is a colorless gas with a faintly disagreeable odor.

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communications Standard (29 CFR 1910.1200).

POTENTIAL HEALTH EFFECTS:

Effects of a Single (Acute) Overexposure

Inhalation. Asphyxiant. Effects are due to lack of oxygen. Moderate concentrations may cause headache, drowsiness, dizziness, excitation, excess salivation, vomiting, and unconsciousness. Lack of oxygen can kill.

Skin Contact. No harm expected from vapor. Liquid may cause frostbite.

Swallowing. An unlikely route of exposure. This product is a gas at normal temperature and pressure, but frostbite of the lips and mouth may result from contact with the liquid.

Eye Contact. No harm expected from vapor. Liquid may cause frostbite.

Effects of Repeated (Chronic) Overexposure. No harm expected.

Other Effects of Overexposure. At very high concentrations, propane may produce cardiac arrhythmias or arrest due to sensitization of the heart to adrenaline and noradrenalin.

Medical Conditions Aggravated by Overexposure. The toxicology and the physical and chemical properties of propane suggest that overexposure is unlikely to aggravate existing medical conditions.

CARCINOGENICITY: Propane is not listed by NTP, OSHA, or IARC.

POTENTIAL ENVIRONMENTAL EFFECTS: None known. For further information, see section 12, Ecological Information.

3. Composition/Information on Ingredients

This section covers materials of manufacture only. See sections 8, 10, 11, and 16 for information on by-products generated during use in welding and cutting. See section 16 for important information about mixtures.

COMPONENT	CAS NUMBER	CONCENTRATION
Propane	74-98-6	>99%*

*The symbol > means "greater than."

4. First Aid Measures

INHALATION: Immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Call a physician.

SKIN CONTACT: For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). In case of massive exposure, remove contaminated clothing while showering with warm water. Call a physician.

SWALLOWING: An unlikely route of exposure. This product is a gas at normal temperature and pressure.

EYE CONTACT: For contact with the liquid, immediately flush eyes thoroughly with warm water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. See a physician, preferably an ophthalmologist, immediately.

NOTES TO PHYSICIAN: *This material may be a cardiac sensitizer; avoid the use of epinephrine. 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

FLAMMABLE PROPERTIES: Flammable gas. Forms explosive mixtures with air and oxidizing agents.

SUITABLE EXTINGUISHING MEDIA: CO₂, dry chemicals, water spray, or fog.

PRODUCTS OF COMBUSTION: Carbon dioxide (CO₂), carbon monoxide (CO)

PROTECTION OF FIREFIGHTERS: DANGER! Flammable liquid and gas under pressure. Evacuate all personnel from danger area. Immediately cool cylinders with water spray from maximum distance, taking care not to extinguish flames. Remove ignition sources if without risk. Remove all cylinders from area of fire if without risk, while continuing cooling water spray. Do not extinguish any flames emitted from cylinders. Stop flow of gas if without risk, or allow flames to burn out. Self-contained breathing apparatus may be required by rescue workers. On-site fire brigades must comply with OSHA 29 CFR 1910.156.

Specific Physical and Chemical Hazards. Flammable gas. Forms explosive mixtures with air and oxidizing agents. Heat of fire can build pressure in cylinder and cause it to rupture. No part of cylinder should be subjected to a temperature higher than 125°F (52°C). Propane cylinders are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT.) If venting or leaking propane catches fire, do not extinguish flames. Flammable gas may spread from leak, creating an explosive re-ignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with an appropriate device.

Protective Equipment and Precautions for Firefighters. Firefighters should wear self-contained breathing apparatus and full fire-fighting turnout gear.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

DANGER! Flammable liquid and gas under pressure.

Personal Precautions. Forms explosive mixtures with air. (See section 5.) Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if without risk. Reduce vapors with fog or fine water spray. Shut off flow if without risk. Ventilate area or move cylinder to a well-ventilated area. Flammable vapors may spread from leak. Before entering area, especially confined areas, check atmosphere with an approved device.

Environmental Precautions. Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING: *Flammable liquid and gas under pressure.* Keep away from heat, sparks, and open flame. Use only spark-proof tools and explosion-proof equipment. Ground all equipment. *Gas can cause rapid suffocation due to oxygen deficiency.* Store and use with adequate ventilation. Close cylinder valve after each use; keep closed even when empty. *Protect cylinders from damage.* Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. *All piped propane systems and associated equipment must be grounded.* Electrical equipment must be non-sparking or explosion-proof. Leak check system with soapy water; never use a flame. *Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve.* Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store and use with adequate ventilation. Separate propane cylinders from oxygen, chlorine, and other oxidizers by at least 20 ft (6.1 m), or use a barricade of noncombustible material. This barricade should be at least 5 ft (1.53 m) high and have a fire resistance rating of at least ½ hour. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Post "No Smoking or Open Flames" signs in storage and use areas. There must be no sources of ignition. All electrical equipment in storage areas must be explosion-proof. Storage areas

must meet national electric codes for Class 1 hazardous areas. Store only where temperature will not exceed 125°F (52°C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods. For other precautions in using propane, see section 16.

RECOMMENDED PUBLICATIONS: For further information on storage, handling, and use, see Praxair publication P-14-153, *Guidelines for Handling Gas Cylinders and Containers*. Obtain from your local supplier.

8. Exposure Controls/Personal Protection

See section 16 for important information on by-products generated during use in welding and cutting.

COMPONENT	OSHA PEL	ACGIH TLV-TWA (2007)
Propane	1000 ppm	1000 ppm

Hazardous fumes may be generated during welding with this product. See section 16 for more information on welding hazards.

TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations.

IDLH = 2100 ppm

ENGINEERING CONTROLS:

Local Exhaust. An explosion-proof local exhaust system is acceptable if it can prevent oxygen deficiency and keep hazardous fumes and gases below all applicable exposure limits in the worker's breathing zone.

Mechanical (General). An explosion-proof system may be acceptable if it can prevent oxygen deficiency and keep hazardous fumes and gases below all applicable exposure limits in the worker's breathing zone.

Special. None

Other. None

PERSONAL PROTECTIVE EQUIPMENT:

Skin Protection. Wear work gloves for cylinder handling and to prevent exposure to liquid. Wear welding gloves for welding. Metatarsal shoes for cylinder handling. For welding, see section 16. Select in accordance with OSHA 29 CFR 1910.132 and 1910.133. Regardless of protective equipment, never touch live electrical parts.

Eye/Face Protection. Wear safety glasses when handling cylinders; for welding, see section 16. Select eye protection in accordance with OSHA 29 CFR 1910.133.

Respiratory Protection. Use air-purifying or air-supplied respirators where local or general exhaust ventilation is inadequate to keep worker exposure below all applicable exposure limits for fumes, gases, and other by-products of welding with propane. See section 16 for details. Air-supplied respirators must be used in confined spaces. Respiratory protection must conform to OSHA rules as specified in 29 CFR 1910.134. Select per OSHA 29 CFR 1910.134 and ANSI Z88.2.

9. Physical and Chemical Properties

APPEARANCE:	Colorless gas
ODOR:	Faintly disagreeable
ODOR THRESHOLD:	Not available.
PHYSICAL STATE:	Gas at normal temperature and pressure
pH:	Not applicable.
FREEZING POINT at 1 atm:	-305.84°F (-187.69°C)
BOILING POINT at 1 atm:	-43.67°F (-42.04°C)
FLASH POINT (test method):	-156°F (-104°C) TCC
EVAPORATION RATE (Butyl Acetate = 1):	High
FLAMMABILITY:	Flammable
FLAMMABLE LIMITS IN AIR, % by volume:	LOWER: 2.1% UPPER: 9.5%
VAPOR PRESSURE at 70°F (21.1°C):	109.73 psig (756.56 kPa)
VAPOR DENSITY at 70°F (21.1°C) and 1 atm:	0.2612 lb/ft ³ (4.183 kg/m ³)
SPECIFIC GRAVITY (H₂O = 1) at 77°F (25°C) and 1 atm:	0.5077
SPECIFIC GRAVITY (Air = 1) at 70°F (21.1°C) and 1 atm:	1.523
SOLUBILITY IN WATER 68°F (20°C):	0.065
PARTITION COEFFICIENT: n-octanol/water:	Not available.
AUTOIGNITION TEMPERATURE:	842°F (450°C)
DECOMPOSITION TEMPERATURE:	Not available.
PERCENT VOLATILES BY VOLUME:	100
MOLECULAR WEIGHT:	44.096
MOLECULAR FORMULA:	C ₃ H ₈

10. Stability and Reactivity

CHEMICAL STABILITY: Unstable Stable

CONDITIONS TO AVOID: None known.

INCOMPATIBLE MATERIALS: Oxidizing agents, chlorine dioxide

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition and burning may produce CO/CO₂.

POSSIBILITY OF HAZARDOUS REACTIONS: May Occur Will Not Occur

Contact with incompatible materials and/or elevated temperatures may result in fire or explosion.

11. Toxicological Information

ACUTE DOSE EFFECTS: Possible cardiac sensitization to epinephrine; see section 2. The welding process may generate hazardous fumes and gases. (See sections 2, 10, 15, and 16.)

CARDIOVASCULAR EFFECTS: In a study conducted in 1948, dogs breathed varying mixtures of hydrocarbons and oxygen for 10 minutes. Of a group of dogs exposed to propane, all (3 of 3) showed myocardial sensitivity to injected epinephrine hydrochloride as determined by electrocardiogram (EKG) readings. No direct evidence is known of propane-induced cardiac sensitization in humans.

12. Ecological Information

ECOTOXICITY: No adverse ecological effects expected.

OTHER ADVERSE EFFECTS: Propane does not contain any Class I or Class II ozone-depleting chemicals.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.

14. Transport Information

DOT/IMO SHIPPING NAME: Propane or Petroleum gases, liquefied, n.o.s. (propane)

HAZARD CLASS:	PACKING GROUP/Zone:	IDENTIFICATION NUMBER:	PRODUCT RQ:
2.1	NA/NA*	UN1978 or UN1075	None

SHIPPING LABEL(s): FLAMMABLE GAS

PLACARD (when required): FLAMMABLE GAS

*NA=Not applicable.

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, nonventilated compartment of a vehicle can present serious safety hazards.

Shipment of compressed gas cylinders that have been filled without the owner's consent is a violation of federal law [49 CFR 173.301(b)].

MARINE POLLUTANTS: Propane is not listed as a marine pollutant by DOT.

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

U.S. FEDERAL REGULATIONS:

EPA (ENVIRONMENTAL PROTECTION AGENCY)

CERCLA: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (40 CFR Parts 117 and 302):

Reportable Quantity (RQ): None

SARA: SUPERFUND AMENDMENT AND REAUTHORIZATION ACT:

SECTIONS 302/304: Require emergency planning based on Threshold Planning Quantity (TPQ) and release reporting based on Reportable Quantities (RQ) of Extremely Hazardous Substances (EHS) (40 CFR Part 355):

TPQ: None

EHS RQ (40 CFR 355): None

SECTIONS 311/312: Require submission of MSDSs and reporting of chemical inventories with identification of EPA hazard categories. The hazard categories for this product are as follows:

IMMEDIATE: Yes

DELAYED: No

PRESSURE: Yes

REACTIVITY: No

FIRE: Yes

SECTION 313: Requires submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372.

Propane is not subject to reporting under Section 313.

40 CFR 68: RISK MANAGEMENT PROGRAM FOR CHEMICAL ACCIDENTAL RELEASE PREVENTION: Requires development and implementation of risk management programs at facilities that manufacture, use, store, or otherwise handle regulated substances in quantities that exceed specified thresholds.

Propane is listed as a regulated substance in quantities of 10,000 lb (4536 kg) or greater.

TSCA: TOXIC SUBSTANCES CONTROL ACT: Propane is listed on the TSCA inventory.

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR 1910.119: PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: Requires facilities to develop a process safety management program based on Threshold Quantities (TQ) of highly hazardous chemicals.

Propane is not listed in Appendix A as a highly hazardous chemical. However, any process that involves a flammable gas on site in one location in quantities of 10,000 lb (4536 kg) or greater is covered under this regulation unless the gas is used as a fuel.

STATE REGULATIONS:

CALIFORNIA: Propane is not listed by California under the SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (Proposition 65).

PENNSYLVANIA: Propane is subject to the PENNSYLVANIA WORKER AND COMMUNITY RIGHT-TO-KNOW ACT (35 P.S. Sections 7301-7320).

16. Other Information

Be sure to read and understand all labels and instructions supplied with all containers of this product.

SPECIAL PRECAUTIONS: *Use in welding and cutting.* Using propane in welding and cutting may create special hazards, including those from fumes, gases, and other by-products of the welding process. Be sure to read and understand the manufacturer's instructions and the precautionary labels on all products. For more information, ask your welding products supplier for a copy of Praxair's free safety booklet, P-2035, *Precautions and Safe Practices for Gas*

Welding, Cutting, and Heating. For a detailed treatment, get ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society (AWS), PO Box 351040, Miami, FL 33135, or see OSHA's Web site at <http://www.osha-slc.gov/SLTC/weldingcuttingbrazing/>. Order AWS documents from Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112-5710, <http://global.ihs.com/>. **Arcs and sparks can ignite combustible materials.** Prevent fires. **Do not strike an arc on the cylinder.** The defect caused by an arc burn could lead to cylinder rupture. For more information on fire prevention in welding and cutting, see NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hotwork*, published by the National Fire Protection Association.

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE: **Flammable liquid and gas under pressure.** May form explosive mixtures with air. Use piping and equipment adequately designed to withstand pressures to be encountered. Use a backflow prevention device in any piping. **Never work on a pressurized system.** If there is a leak, blow the system down in an environmentally safe manner in compliance with all federal, state, and local laws; then repair the leak. **Follow safe practices when returning cylinder to supplier.** Be sure valve is closed; then install valve outlet cap or plug if provided, leak-tight. **Never allow a compressed gas cylinder to become part of an electrical circuit.**

NOTE: Prior to using any plastics, confirm their compatibility with propane.

Mixtures. When you mix two or more gases or liquefied gases, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Remember, gases and liquids have properties that can cause serious injury or death.

HAZARD RATING SYSTEMS:

NFPA RATINGS:

HEALTH = 2
 FLAMMABILITY = 4
 INSTABILITY = 0
 SPECIAL = None

HMIS RATINGS:

HEALTH = 1
 FLAMMABILITY = 4
 PHYSICAL HAZARD = 2

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA:

THREADED:

CGA-510 (gas withdrawal)
 CGA-790(gas grills), CGA-791 (limited standard)
 CGA-555 (liquid withdrawal)

PIN-INDEXED YOKE:

Not applicable.

ULTRA-HIGH-INTEGRITY CONNECTION:

Not applicable.

Use the proper CGA connections. **DO NOT USE ADAPTERS.** Additional limited-standard connections may apply. See CGA pamphlet V-1 listed below.

Ask your supplier about free Praxair safety literature as referred to in this MSDS and on the label for this product. Further information can be found in the following materials published by the Compressed Gas Association, Inc. (CGA), 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923, Telephone (703) 788-2700, <http://www.cganet.com/Publication.asp>.

- AV-1 *Safe Handling and Storage of Compressed Gases*
- P-1 *Safe Handling of Compressed Gases in Containers*
- SB-2 *Oxygen-Deficient Atmospheres*
- SB-8 *Use of Oxy-Fuel Gas Welding and Cutting Apparatus*
- V-1 *Compressed Gas Cylinder Valve Inlet and Outlet Connections*
- *Handbook of Compressed Gases, Fourth Edition*

Praxair asks users of this product to study this MSDS and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this MSDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

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Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113



Material Safety Data Sheet

MSDS ID NO.: 0133SPE012
Revision date: 05/25/2011

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Speedway Propane
Synonym: Liquefied Petroleum Gas, Speedway; LPG, Speedway; Propane, Speedway; Speedway Liquefied Petroleum Gas
Chemical Family: Aliphatic Hydrocarbon
Formula: CH₃CH₂CH₃

Manufacturer:
Speedway LLC
P.O. Box 1500
Enon, OH 45501

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Propane is an aliphatic petroleum hydrocarbon. Ethyl mercaptan (15-25 ppm) is added as an odorant. The odor threshold of the mercaptan is 1 ppb.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Speedway Propane	74-98-6	100	1000 ppm TWA	= 1000 ppm TWA = 1800 mg/m ³ TWA	

Component information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Propane	74-98-6	90-100	1000 ppm TWA	= 1000 ppm TWA = 1800 mg/m ³ TWA	
Propylene	115-07-1	1-5	500 ppm TWA		
Ethane	74-84-0	0.5-3	1000 ppm TWA		
Butane & Heavier	Mixture	0-2.5			
Sulfur	7704-34-9	0-0.01			

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!

MAY REDUCE OXYGEN AVAILABLE FOR BREATHING OVEREXPOSURE MAY CAUSE CNS DEPRESSION
 BREATHING HIGH CONCENTRATIONS CAN CAUSE IRREGULAR HEARTBEATS WHICH MAY BE FATAL
 DIRECT CONTACT WITH LIQUID MAY CAUSE FROSTBITE (FREEZE BURNS)
 SEE TOXICOLOGICAL INFORMATION SECTION FOR MORE INFORMATION

EXTREMELY FLAMMABLE COMPRESSED GAS LIQUID
 VAPOR MAY CAUSE FLASH FIRE OR EXPLOSION

STABLE

Inhalation:

Product is an anesthetic at high concentrations, producing dizziness, headache, incoordination and narcosis; extremely high concentrations can cause asphyxiation and death by displacement of oxygen from the breathing atmosphere.

Ingestion:

Ingestion not likely.

Skin contact:

Vapor is generally non-irritating to skin. Direct contact with liquified product can cause "cold burn" or frostbite.

Eye contact:

Vapor is generally non-irritating to eyes. Direct contact with liquified product can cause "cold burn" or frostbite.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Speedway Propane 74-98-6	NE			

Notes:

The International Agency for Research on Cancer (IARC) has not evaluated this product.

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Propylene 115-07-1		male rat-no evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence	A4 - Not Classifiable as a Human Carcinogen	

Notes:

The International Agency for Research on Cancer (IARC) has concluded that propylene is not classifiable as to its carcinogenicity to humans (Group 3).

4. FIRST AID MEASURES

Eye Contact:

Flush with large amounts of tepid water for at least 15 minutes. Immediately consult a physician if frostbite is suspected (cloudy lens or greyish white tissue around the eye).

Gas: Call a physician if symptoms or irritation occur.

Skin Contact:

If liquified product has caused a "frost burn", remove contaminated clothing. Thaw frostbitten areas slowly with lukewarm water or by wrapping affected areas with blankets. Do not rub affected areas. Let circulation reestablish itself naturally, exercising area if possible. Call a physician.

Ingestion:

Ingestion not likely. If swallowed, immediately call a physician.

Inhalation:

If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician.

NOTES TO PHYSICIAN:

No data available.

**Medical Conditions
Aggravated
By Exposure:**

Inhalation of high vapor concentrations of components of this product in animals has produced cardiac sensitization. Such sensitization may cause changes in heart rhythms. This latter effect was shown to be enhanced by oxygen deficiency or the injection of adrenalin-like agents.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards:

This product has been determined to be a flammable gas/liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. For additional fire related information see NFPA 30 or North American Emergency Response Guide 115.

5. FIRE FIGHTING MEASURES

Special protective equipment for firefighters:

Bleve's (boiling liquid expanding vapor explosions) can occur when a liquid in a pressurized container in close proximity to a fire reaches a temperature well above its boiling point. Its effect could lead to a catastrophic failure of the vessel resulting in flying equipment fragments, a shock wave and a fireball causing serious damage and death. Isolate hazard area. If safe to do so, stop the flow of gas and allow fire to burn out. Extinguishing the flame before shutting off the supply can cause the formation of explosive mixtures. In some cases it may be preferred to allow the flame to continue to burn. Use extreme caution when fighting liquefied petroleum gas fires. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Avoid use of solid water streams. Contact with water and liquified product can cause increased vaporization.

Flash point: -156 F
Autoignition temperature: 871 F
Flammable limits in air - lower (%): 2.1
Flammable limits in air - upper (%): 9.5

NFPA rating:

Health: 1
Flammability: 4
Instability: 0
Other: -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Leaking containers should be moved outdoors or to well-ventilated area and contents transferred to a suitable container. Product vapor is heavier than air and can collect in low areas that are without sufficient ventilation. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer.

7. HANDLING AND STORAGE

Handling:

Product is stored as a liquid but used in the gaseous state. Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Avoid overpressurizing or overfilling cylinders. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

- Engineering measures:** Local or general exhaust required in an enclosed area or when there is inadequate ventilation.
- Respiratory protection:** Use atmosphere supplying respirators in the event of oxygen deficiency, when material produces vapors that exceed permissible limits or when excessive vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.
- Skin and body protection:** Wear insulated gloves to prevent skin contact and frostbite.
- Eye protection:** Use goggles or face-shield if there is a potential for splashing.
- Hygiene measures:** Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Colorless Liquefied Gas
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Pure
Color:	Colorless
Odor:	Rotten-egg.
Molecular weight:	Not determined.
pH:	No data available.
Boiling point/range (5-95%):	-43.7 F
Melting point/range:	-305.8 F
Decomposition temperature:	Not applicable.
Specific gravity:	.51 Liquid
Density:	4.4 lbs/gal @ 32 F
Bulk density:	No data available.
Vapor density:	1.56
Vapor pressure:	Not determined.
Evaporation rate:	No data available.
Solubility:	Not determined
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.
VOC content(%):	No data available.
Viscosity:	No data available.

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Combustion produces carbon monoxide.
Materials to avoid:	Strong oxidizers such as nitrates, perchlorates, chlorine, fluorine.
Conditions to avoid:	Sources of heat or ignition.

11. TOXICOLOGICAL INFORMATION

II. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Speedway Propane	74-98-6	LC50>550,000 ppm hrs [Guinea Pigs]	No data available	No data available

Toxicology Information:

Summary of health effect information on the product:

At extremely high concentrations and excessive exposure conditions components of this product may produce cardiac sensitization.

Male and female rats were exposed to up to 12000 ppm propane for 4-6 weeks prior to and during mating. Propane did not produce systemic/neurotoxic effects (apart from decreased body weight gain). No effects on fertility, reproductive performance, pup survival and neonatal development were observed.

Summary of health effect information on individual components:

C1 to C4 aliphatic hydrocarbons, namely, methane, ethane, propane, butane and isobutane, and mixtures of these gases produce weak central nervous system (CNS) depressant effects without significant potential for systemic toxicity. At very high concentrations, they act as asphyxiant gases by diluting and displacing oxygen. Symptoms of persons exposed to oxygen deficient atmospheres include headache, dizziness, incoordination, cyanosis and narcosis. Extremely high concentrations can produce unconsciousness followed by death.

This product contains >1.0% propylene. Propylene was not carcinogenic in mice and rats exposed in a two-year inhalation study at concentrations of 5,000 and 10,000 ppm. Noncancerous changes (epithelial hyperplasia/metaplasia) in the nasal cavity were observed in rats but not mice at the dose levels tested.

This product contains >1% ethane. Male and female rats exposed to up to 16000 ppm ethane for 4-6 weeks prior to and during mating. Ethane did not produce systemic/neurotoxic effects. No effects on fertility, reproductive performance, pup survival and neonatal development were observed.

This product contains >1% butane. Male and female rats exposed to up to 9000 ppm butane for 4-6 weeks prior to and during mating resulted in no general systemic/neurotoxic effects. No effects on fertility or reproductive performance, pup survival and neonatal development were observed.

12. ECOTOXICOLOGICAL INFORMATION

Mobility:

No data available.

Ecotoxicity:

No data available.

Bioaccumulation:

No data available.

Persistence/Biodegradation:

Liquid product is not toxic to aquatic life or waterfowl. The aquatic 96 hour TLM for propane is >100 ppm.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations. Bleeding off small amounts of this product into the atmosphere or controlled incineration of large amounts are potential disposal methods provided all regulatory requirements are met.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information: This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name:	Propane
UN/identification No:	UN 1978
Hazard Class:	2.1
Packing group:	Not applicable.
DOT reportable quantity (lbs):	Not applicable.

Proper shipping name:	Propane
UN/identification No:	UN 1978
Hazard Class:	2.1
Packing group:	Not applicable.

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Propane	NA
Propylene	NA
Ethane	NA
Butane & Heavier	NA
Sulfur	NA

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Propane	NA
Propylene	NA
Ethane	NA
Butane & Heavier	NA
Sulfur	NA

SARA Section 311/312 The following EPA hazard categories apply to this product:

Acute Health Hazard
 Fire Hazard
 Sudden Release Of Pressure

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Propane	None
Propylene	= 1.0 % de minimis concentration
Ethane	None
Butane & Heavier	None
Sulfur	None

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Propane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1594
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Present

Propane

Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1594 TPQ 500 lb
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Propylene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1609
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1609 TPQ 500 lb
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Ethane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 0834
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 0834 TPQ 500 lb
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Propane

Butane & Heavier

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Sulfur

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Listed
Pennsylvania Right-To-Know:	Listed
Massachusetts Right-To Know:	Listed
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Propane	A, B1	
Propylene	A, B1, D2B	
Ethane	A, B1	
Sulfur	B4	

NOTE: Not Applicable.

16. OTHER INFORMATION

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Mark S. Swanson, Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Speedway LLC does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. Speedway assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet

Material Safety Data Sheet

Airgas

Carbon Dioxide

Section 1. Chemical product and company identification

Product name : Carbon Dioxide

Supplier : AIRGAS INC., on behalf of its subsidiaries
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

Product use : Synthetic/Analytical chemistry.

Synonym : anhydride carbonique (french); carbonic acid gas; carbonic anhydride; dry ice;
kohlenstaure (german); dry ice (solid)

MSDS # : 001013

Date of Preparation/Revision : **4/7/2008.**

In case of emergency : 1-866-734-3438

Section 2. Hazards identification

Physical state : Gas.

Emergency overview : **WARNING!**
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
CAN CAUSE TARGET ORGAN DAMAGE.
CONTENTS UNDER PRESSURE.
Do not puncture or incinerate container. Avoid contact with eyes, skin and clothing. Can cause target organ damage. Wash thoroughly after handling. Keep container closed. Avoid breathing gas. Use with adequate ventilation.
Contact with rapidly expanding gas, liquid, or solid can cause frostbite.

Target organs : Causes damage to the following organs: eyes.
May cause damage to the following organs: lungs, cardiovascular system, skin, central nervous system (CNS), eye, lens or cornea.

Routes of entry : Inhalation Dermal Eyes

Potential acute health effects

Eyes : Moderately irritating to eyes. Contact with rapidly expanding gas may cause burns or frostbite.

Skin : Moderately irritating to the skin. Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : Moderately irritating to the respiratory system.

Ingestion : Ingestion is not a normal route of exposure for gases

Potential chronic health effects : **CARCINOGENIC EFFECTS:** Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

Carbon Dioxide

Section 3. Composition, Information on Ingredients

<u>Name</u>	<u>CAS number</u>	<u>% Volume</u>	<u>Exposure limits</u>
Carbon Dioxide	124-38-9	100	ACGIH TLV (United States, 1/2007). STEL: 54000 mg/m ³ 15 minute(s). TWA: 9000 mg/m ³ 8 hour(s). NIOSH REL (United States, 12/2001). STEL: 54000 mg/m ³ 15 minute(s). TWA: 9000 mg/m ³ 10 hour(s). OSHA PEL (United States, 11/2006). TWA: 9000 mg/m ³ 8 hour(s).

Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Eye contact	: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
Skin contact	: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
Frostbite	: Try to warm up the frozen tissues and seek medical attention.
Inhalation	: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Ingestion	: As this product is a gas, refer to the inhalation section.

Section 5. Fire fighting measures

Flammability of the product	: Non-flammable.
Products of combustion	: Decomposition products may include the following materials: carbon dioxide carbon monoxide
Fire-fighting media and instructions	: Use an extinguishing agent suitable for the surrounding fire. Apply water from a safe distance to cool container and protect surrounding area. If involved in fire, shut off flow immediately if it can be done without risk. Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions	: Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Shut off gas supply if this can be done safely. Isolate area until gas has dispersed.
Environmental precautions	: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Methods for cleaning up	: Immediately contact emergency personnel. Stop leak if without risk. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Carbon Dioxide

Section 7. Handling and storage

- Handling** : Wash thoroughly after handling. High pressure gas. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Keep container closed. Avoid contact with skin and clothing. Use with adequate ventilation. Avoid contact with eyes. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Never allow any unprotected part of the body to touch uninsulated pipes or vessels that contain cryogenic liquids. Prevent entrapment of liquid in closed systems or piping without pressure relief devices. Some materials may become brittle at low temperatures and will easily fracture.
- Storage** : Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

- Engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
When working with cryogenic liquids, wear a full face shield.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Insulated gloves suitable for low temperatures
- Personal protection in case of a large spill** : Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product. Full chemical-resistant suit and self-contained breathing apparatus should be worn only by trained and authorized persons.

Product name

carbon dioxide

ACGIH TLV (United States, 1/2007).
STEL: 54000 mg/m³ 15 minute(s).
TWA: 9000 mg/m³ 8 hour(s).
NIOSH REL (United States, 12/2001).
STEL: 54000 mg/m³ 15 minute(s).
TWA: 9000 mg/m³ 10 hour(s).
OSHA PEL (United States, 11/2006).
TWA: 9000 mg/m³ 8 hour(s).

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

- Molecular weight** : 44.01 g/mole
- Molecular formula** : C-O₂
- Boiling/condensation point** : -78.6°C (-109.5°F)
- Melting/freezing point** : Sublimation temperature: -78.5°C (-109.3°F)
- Critical temperature** : 30.9°C (87.6°F)
- Vapor pressure** : 830 (psig)

Carbon Dioxide

Vapor density : 1.53 (Air = 1)
Specific Volume (ft³/lb) : 8.7719
Gas Density (lb/ft³) : 0.114

Section 10. Stability and reactivity

Stability and reactivity : The product is stable.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Toxicity data

IDLH : 40000 ppm
Chronic effects on humans : Causes damage to the following organs: eyes.
May cause damage to the following organs: lungs, cardiovascular system, skin, central nervous system (CNS), eye, lens or cornea.
Other toxic effects on humans : No specific information is available in our database regarding the other toxic effects of this material to humans.

Specific effects

Carcinogenic effects : No known significant effects or critical hazards.
Mutagenic effects : No known significant effects or critical hazards.
Reproduction toxicity : No known significant effects or critical hazards.

Section 12. Ecological information

Aquatic ecotoxicity


Not available.



Toxicity of the products of biodegradation : not available
Environmental fate : Not available.
Environmental hazards : No known significant effects or critical hazards.
Toxicity to the environment : Not available.

Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1013	CARBON DIOXIDE	2.2	Not applicable (gas).		Limited quantity Yes.
	UN2187	Carbon dioxide, refrigerated liquid				Packaging instruction Passenger aircraft Quantity limitation: 75 kg Cargo aircraft Quantity

Carbon Dioxide						
						limitation: 150 kg
TDG Classification	UN1013 UN2187	CARBON DIOXIDE Carbon dioxide, refrigerated liquid	2.2	Not applicable (gas).		Explosive Limit and Limited Quantity Index 0.125 Passenger Carrying Road or Rail Index 75
Mexico Classification	UN1013 UN2187	CARBON DIOXIDE Carbon dioxide, refrigerated liquid	2.2	Not applicable (gas).		-

Section 15. Regulatory information

United States

- U.S. Federal regulations** : **United States inventory (TSCA 8b):** This material is listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: carbon dioxide
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
carbon dioxide: Sudden release of pressure, Immediate (acute) health hazard, Delayed (chronic) health hazard
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.
- State regulations** : **Connecticut Carcinogen Reporting:** This material is not listed.
Connecticut Hazardous Material Survey: This material is not listed.
Florida substances: This material is not listed.
Illinois Chemical Safety Act: This material is not listed.
Illinois Toxic Substances Disclosure to Employee Act: This material is not listed.
Louisiana Reporting: This material is not listed.
Louisiana Spill: This material is not listed.
Massachusetts Spill: This material is not listed.
Massachusetts Substances: This material is listed.
Michigan Critical Material: This material is not listed.
Minnesota Hazardous Substances: This material is not listed.
New Jersey Hazardous Substances: This material is listed.
New Jersey Spill: This material is not listed.
New Jersey Toxic Catastrophe Prevention Act: This material is not listed.
New York Acutely Hazardous Substances: This material is not listed.
New York Toxic Chemical Release Reporting: This material is not listed.
Pennsylvania RTK Hazardous Substances: This material is listed.
Rhode Island Hazardous Substances: This material is not listed.

Canada

- WHMIS (Canada)** : Class A: Compressed gas.

Carbon Dioxide

CEPA Toxic substances: This material is listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is not listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

Section 16. Other information

United States

Label requirements : MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
 CAN CAUSE TARGET ORGAN DAMAGE.
 CONTENTS UNDER PRESSURE.

Canada

Label requirements : Class A: Compressed gas.

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

Health	*	1
Flammability		0
Physical hazards		0

liquid:

Health		3
Fire hazard		0
Reactivity		0
Personal protection		

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



liquid:



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.

***** SECTION 1 - Product and Company Identification *****

Manufacturer: E.I. DuPont de Nemours & Co.
Dupont Performance Coatings
Wilmington, DE, 19898

Telephone: Product Information: (800) 441-7515
Medical Emergency: (800) 441-3637
Transportation Emergency: (800) 424-9300 (CHEMTREC)

PRODUCT NAME: ANSI 61 MED GRAY

PRODUCT CODE: 1072

Chemical Family: No Information Available

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***** SECTION 2 - Composition, Information on Ingredients *****

CAS #	Ingredient	Concentration/ Range (%)	Exposure Limits**
110-43-0	METHYL AMYL KETONE	5- 15	A 50.0 ppm O 100.0 ppm
70942-12-0	ACRYLIC POLYMER	16- 26	A None O None
123-86-4	BUTYL ACETATE	5- 15	A 200.0 ppm 15 min STEL A 150.0 ppm O 150.0 ppm
64742-95-6	AROMATIC HYDROCARBON	1- 4	D 50.0 ppm A None O None
1333-86-4	CARBON BLACK	0.2	A 3.0 mg/m3 O 3.5 mg/m3 D 0.5 mg/m3 8 & 12 hour TWA
13463-67-7	TITANIUM DIOXIDE	24.6	O 15.0 mg/m3 Total Dust D 10.0 mg/m3 8 & 12 hour TWA Total Dust D 5.0 mg/m3 8 & 12 hour TWA

***** SECTION 2 - Composition, Information on Ingredients *****
Cont'd

			Respirable Dust	
			A	None
7631-86-9	AMORPHOUS SILICA	1- 4	A	3.0 mg/m3
			Respirable Dust	
			O	20.0 mppcf
			D	3.0 mg/m3
			8 hr PEL	
			D	6.0 mg/m3
141-78-6	ETHYL ACETATE	5- 15	A	400.0 ppm
			O	400.0 ppm
112-07-2	ETHYLENE GLYCOL MONOBUTY- L ETHER ACETATE	2	A	20.0 ppm
			D	20.0 ppm
			8 & 12 hour TWA	
			O	None
100-41-4	ETHYLBENZENE	0.1	A	20.0 ppm
			O	100.0 ppm
			D	25.0 ppm
			8 & 12 hour TWA	
68911-87-5	ORGANOCLAY	1- 4	A	None
			O	None
71010-58-7	POLYESTER RESIN	16- 26	A	None
			O	None

OSHA HAZARDOUS? Yes

** A = ACGIH, O = OSHA, D = Dupont, S = Supplier (For additional definition of terms, see Section 16). Limits are 8-hour TWA unless otherwise specified.

***** SECTION 3 - Hazards Information *****

Emergency Overview:

WARNING! FLAMMABLE LIQUID AND VAPOR. VAPORS AND SPRAY MIST HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS DIZZINESS, HEADACHE, OR NAUSEA. MAY CAUSE NOSE, THROAT, EYE AND SKIN IRRITATION. CAN BE ABSORBED THROUGH THE SKIN.

Potential Health Effects:

Inhalation:

May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to

***** SECTION 3 - Hazards Information *****
Cont'd

solvents with permanent brain and nervous system damage.

Ingestion:

May result in gastrointestinal distress.

Skin or eye contact:

May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Other Potential Health Effects in addition to those listed above:

BUTYL ACETATE

May cause abnormal liver function.

The following medical conditions may be aggravated by exposure:
respiratory system

Tests for embryotoxic activity in animals has been inconclusive.

Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown.

Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother.

AROMATIC HYDROCARBON

The following medical conditions may be aggravated by exposure: skin disorders

Laboratory studies with rats have shown that petroleum distillates can cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys.

Several studies evaluating petroleum workers have not shown a significant increase of kidney damage or an increase in kidney or liver tumors.

CARBON BLACK

Is an IARC, NTP or OSHA carcinogen.

Has shown carcinogenic activity in laboratory animals at high doses.

Significance to man is unknown.

The following medical conditions may be aggravated by exposure:
asthma respiratory disease

WARNING: This chemical is known to the State of California to cause cancer.

TITANIUM DIOXIDE

Is an IARC, NTP or OSHA carcinogen.

In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m³ respirable titanium dust. Analysis of the titanium dioxide concentrations in the rat's lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m³ level are not relevant to the workplace. Results of a DuPont epidemiology study showed that employees who had been exposed to Titanium Dioxide were at no greater risk of developing

***** SECTION 3 - Hazards Information *****
Cont'd

lung cancer than were employees who had not been exposed to Titanium dioxide. No pulmonary fibrosis was found in any of the employees and no association was observed between Titanium dioxide exposure and chronic respiratory disease or x-ray abnormalities. Based on the results of this study DuPont concludes that titanium dioxide will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the workplace.~

ETHYL ACETATE

Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following:
eyes respiratory system skin
Tests in laboratory animals have shown effects on any of the following organs/systems: blood kidneys liver

ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE

May destroy red blood cells.
May cause abnormal kidney function.
May cause temporary upper respiratory and/or lung irritation with cough, difficult breathing, or shortness of breath.
The following medical conditions may be aggravated by exposure:
central nervous system gastrointestinal system kidneys liver
dermatitis
Can be absorbed through the skin in harmful amounts.
Overexposure may cause damage to any of the following organs/systems: blood kidneys liver
Ingestion may cause headache, nausea, vomiting, dizziness, and drowsiness.

ETHYLBENZENE

Is an IARC, NTP or OSHA carcinogen.
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following:
central nervous system kidneys liver lungs
Recurrent overexposure may result in liver and kidney injury.
Studies in laboratory animals have shown reproductive, embryotoxic and developmental effects.
WARNING: This chemical is known to the State of California to cause cancer.

NOTE:

If a chemical listed above is not identified as a carcinogen it is not an "IARC, NTP, or OSHA carcinogen".

***** SECTION 4 - First Aid Measures *****

First Aid Procedures:

Inhalation:

If affected by inhalation of vapor or spray mist, move to fresh air.

***** SECTION 4 - First Aid Measures *****
Cont'd

If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.

Ingestion:

In the unlikely event of ingestion, DO NOT INDUCE VOMITING. Call a physician immediately and have names of ingredients available.

Skin or eye:

In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact, wash thoroughly with soap and water. If irritation occurs, contact a physician.

***** SECTION 5 - Firefighting Measures *****

Flash Point (Method) 20 deg F to below 73 deg F Closed Cup
Approx. flammable limits LFL 1.1 % UFL 11.0 %
Auto ignition temperature 393.0 - 427.0 Deg C

Hazardous Combustion Products:

CO, CO₂, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Extinguishing media:

Universal aqueous film-forming foam, carbon dioxide, dry chemical.

Special fire fighting procedures:

Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to prevent pressure build-up.

Fire & explosion hazards:

Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

***** SECTION 6 - Accidental Release Measures *****

Procedures for cleaning up spills or leaks:

Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor.

Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

***** SECTION 7 - Handling and Storage *****

Precautions to be taken in handling and storing:

Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE.

Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store

***** SECTION 7 - Handling and Storage *****
Cont'd

above 120 deg F.

OSHA/NFPA Storage Classification: IB

Other precautions:

If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves.

***** SECTION 8 - Exposure Controls or Personal Protection *****

Engineering controls and work practices:

Ventilation:

Provide sufficient ventilation in volume and pattern to keep contaminants below applicable exposure limits.

Personal Protective Equipment:

Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory:

Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.

Protective clothing:

Neoprene gloves and coveralls are recommended.

Eye protection:

Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

***** SECTION 9 - Physical and Chemical Properties *****

Evaporation Rate	Slower than Ether
Vapor Pressure of principal solvent	10.00 mmHg @ 20 Deg C
Solubility of solvent in water	NIL
Vapor density of principal solvent (Air = 1)	4.00
Approx. Boiling range	77 - 152 DEG (C)
Approx. Freezing range	-84 DEG (C)
Gallon weight (lbs/gal)	10.35
Specific gravity	1.24
Percent volatile by volume	53.78
Percent volatile by weight	37.28
Percent solids by volume	46.22

***** SECTION 9 - Physical and Chemical Properties *****
Cont'd

Percent solids by weight	62.72
Physical state	Liquid
pH (waterborne systems only)	Not Applicable
VOC* less exempt (lbs/gal)	3.9
VOC* as packaged (lbs/gal)	3.9

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

***** SECTION 10 - Stability and Reactivity *****

Stability:

Stable

Incompatibility (materials to avoid):

None reasonably foreseeable

Hazardous decomposition products:

CO, CO₂, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Hazardous polymerization:

Will not occur.

Sensitivity to static discharge:

Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to mechanical impact:

None Known

***** SECTION 11 - Toxicological Information *****

No Information Available

***** SECTION 12 - Ecological Information *****

No Information Available

***** SECTION 13 - Disposal Considerations *****

Waste disposal method:

Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

***** SECTION 14 - Transportation Information *****

No Information Available

***** SECTION 15 - Regulatory Information *****

TSCA Status:

In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status:

Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity: Non-photochemically reactive

Other Regulatory Information:

CAS #	Ingredient	EPCRA			CERCLA		
		302	TPQ/RQ	311/312	313	RQ (lbs)	HAP
110-43-0	METHYL AMYL KETONE	N	NR	A, C, F	N	NR	N
70942-12-0	ACRYLIC POLYMER	N	NR	NA	N	NR	N
123-86-4	BUTYL ACETATE	N	NR	A, C, F	N	NR	N
64742-95-6	AROMATIC HYDROCARBON	N	NR	A, C, F	N	NR	N
1333-86-4	CARBON BLACK	N	NR	C	N	NR	N
13463-67-7	TITANIUM DIOXIDE	N	NR	A	N	NR	N
7631-86-9	AMORPHOUS SILICA	N	NR	NA	N	NR	N
141-78-6	ETHYL ACETATE	N	NR	C, F	N	NR	N
112-07-2	ETHYLENE GLYCOL MONOBUTYL- L ETHER ACETATE	N	NR	A, C, F	Y	NR	Y
100-41-4	ETHYLBENZENE	N	NR	A, C, F	Y	1000	Y
68911-87-5	ORGANOCLAY	N	NR	N	N	NR	N
71010-58-7	POLYESTER RESIN	N	NR	NA	N	NR	N

Key:

EPCRA: Emergency Planning and Community Right-to-Know Act
(aka Title III, SARA)

302: Extremely hazardous substances

311/312 Categories: F = Fire Hazard A = Acute Hazard
R = Reactivity Hazard C = Chronic Hazard
P = Pressure Related Hazard

313 Information: Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.

CERCLA: Comprehensive Emergency Response, Compensation and Liability Act of 1980.

HAP = Listed as a Clean Air Act Hazardous Air Pollutant

TPQ = Threshold planning quantity

RQ = Reportable quantity

NA = not available

NR = not regulated

***** SECTION 16 - Additional Information *****

HMIS Rating: H: 2 F: 3 R: 0

***** SECTION 16 - Additional Information *****
Cont'd

Glossary of Terms:

- ACGIH - American Conference of Governmental Industrial Hygienists
- IARC - International Agency for Research on Cancer
- NTP - National Toxicology Program
- OSHA - Occupational Safety and Health Administration
- STEL - Short term exposure limit
- TWA - Time-weighted average
- PNOR - Particles not otherwise regulated
- PNOC - Particles not otherwise classified

NOTICE FROM DUPONT

The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or any process.

MSDS prepared by:

Performance Coatings Regulatory Affairs Consultant.



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***** SECTION 1 - Product and Company Identification *****

Manufacturer: E.I. DuPont de Nemours & Co.
Dupont Performance Coatings
Wilmington, DE, 19898

Telephone: Product Information: (800) 441-7515
Medical Emergency: (800) 441-3637
Transportation Emergency: (800) 424-9300 (CHEMTREC)

PRODUCT NAME: IMRON(R) VG-6005(TM)-ACTIVATOR
is a registered trademark of E.I. du Pont de Nemours & Company.
DuPont Canada is a licensee.

PRODUCT CODE: VGM-6005 030527

Chemical Family: Catalyst

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***** SECTION 2 - Composition, Information on Ingredients *****

CAS #	Ingredient	Concentration/ Range (%)	Exposure Limits**
822-06-0	1,6-HEXAMETHYLENE DIISOCYANATE	0.1	A 5.0 ppb O None
28182-81-2	ALIPHATIC POLYISOCYANATE-RESIN	82- 92	S 0.5 mg/m3 A None O None
123-86-4	BUTYL ACETATE	5- 15	A 200.0 ppm 15 min STEL A 150.0 ppm O 150.0 ppm
64742-95-6	AROMATIC HYDROCARBON	1- 4	D 50.0 ppm A None O None
95-63-6	1,2,4-TRIMETHYL BENZENE	2	A 25.0 ppm O 25.0 ppm

OSHA HAZARDOUS? Yes

** A = ACGIH, O = OSHA, D = Dupont, S = Supplier (For additional definition of terms, see Section 16). Limits are 8-hour TWA unless otherwise specified.



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DUPONT MATERIAL SAFETY DATA SHEET

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***** SECTION 3 - Hazards Information *****

Emergency Overview:

DANGER! EXPOSURE MAY CAUSE LUNG INJURY AND ALLERGIC RESPIRATORY REACTION. EFFECTS MAY BE PERMANENT. COMBUSTIBLE LIQUID AND VAPOR. VAPORS AND SPRAY MIST HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS DIZZINESS, HEADACHE, OR NAUSEA. MAY CAUSE NOSE, THROAT, EYE AND SKIN IRRITATION. CAN BE ABSORBED THROUGH THE SKIN.

Potential Health Effects:

Inhalation:

Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion:

May result in gastrointestinal distress.

Skin or eye contact:

May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Other Potential Health Effects in addition to those listed above:

1,6-HEXAMETHYLENE DIISOCYANATE

Overexposure may cause asthma-like reactions with shortness of breath, wheezing, cough, which may be permanent; or permanent lung sensitization. This effect may be delayed for several hours after exposure.

The following medical conditions may be aggravated by exposure:
asthma skin disorders respiratory disorders

Overexposure may cause damage to any of the following
organs/systems: lungs skin

Potential skin sensitizer that may cause allergic reactions and contact dermatitis resulting in severe irritation, dryness, and cracking of the skin.

ALIPHATIC POLYISOCYANATE RESIN

Overexposure may cause asthma-like reactions with shortness of breath, wheezing, cough, which may be permanent; or permanent lung sensitization. This effect may be delayed for several hours after



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1 exposure.



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***** SECTION 3 - Hazards Information *****
Cont'd

The following medical conditions may be aggravated by exposure:
asthma skin disorders respiratory disorders
Potential skin sensitizer that may cause allergic reactions and
contact dermatitis resulting in severe irritation, dryness, and
cracking of the skin.

BUTYL ACETATE

May cause abnormal liver function.

The following medical conditions may be aggravated by exposure:
respiratory system

Tests for embryotoxic activity in animals has been inconclusive.
Rats exposed to very high airborne levels have exhibited high
frequency hearing deficits. The significance of this to man is
unknown.

Has been toxic to the fetus in laboratory animals at doses that are
toxic to the mother.

AROMATIC HYDROCARBON

The following medical conditions may be aggravated by exposure: skin
disorders

Laboratory studies with rats have shown that petroleum distillates
can cause kidney damage and kidney or liver tumors. These effects were
not seen in similar studies with guinea pigs, dogs, or monkeys.
Several studies evaluating petroleum workers have not shown a
significant increase of kidney damage or an increase in kidney or
liver tumors.

NOTE:

If a chemical listed above is not identified as a carcinogen it is
not an "IARC, NTP, or OSHA carcinogen".

***** SECTION 4 - First Aid Measures *****

First Aid Procedures:

Inhalation:

If affected by inhalation of vapor or spray mist, move to fresh air.
If not breathing, give artificial respiration, preferably
mouth-to-mouth. If breathing difficulty persists, or occurs later,
consult a physician.

Ingestion:

In the unlikely event of ingestion, DO NOT INDUCE VOMITING. Call a
physician immediately and have names of ingredients available.

Skin or eye:

In case of eye contact, immediately flush with plenty of water for at
least 15 minutes; call a physician. In case of skin contact, wash
thoroughly with soap and water. If irritation occurs, contact a
physician.



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***** SECTION 5 - Firefighting Measures *****

Flash Point (Method) 100 deg F - 141 deg F Closed Cup
Approx. flammable limits No Information Available
Auto ignition temperature No Information Available

Hazardous Combustion Products:

CO, CO₂, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Extinguishing media:

Universal aqueous film-forming foam, carbon dioxide, dry chemical.

Special fire fighting procedures:

Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to prevent pressure build-up.

Fire & explosion hazards:

Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

***** SECTION 6 - Accidental Release Measures *****

Procedures for cleaning up spills or leaks:

Ventilate area. If heated above the flashpoint, remove sources of ignition. Do not breathe vapors. Do not get in eyes or on skin.

Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 20% Surfactant (Tergitol TM 10) and 80% Water OR

0-10% Ammonia, 2-5% Detergent and Water (balance) Confine and remove with inert absorbent. Pressure can be generated. Do not seal waste containers for 48 hours to allow CO₂ to vent. After 48 hours, material may be sealed and disposed of properly.

***** SECTION 7 - Handling and Storage *****

Precautions to be taken in handling and storing:

Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.

OSHA/NFPA Storage Classification:

II

Other precautions:

If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves.

***** SECTION 8 - Exposure Controls or Personal Protection *****



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***** SECTION 8 - Exposure Controls or Personal Protection *****
Cont'd

Engineering controls and work practices:

Ventilation:

Provide sufficient ventilation in volume and pattern to keep contaminants below applicable exposure limits.

Personal Protective Equipment:

Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory:

Do not breathe vapors or mists. Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C) during the spray application (or brush or roll application in poorly ventilated areas) of this product and until all vapors and spray mist are exhausted. For mixing and for brush and roll application in well-ventilated areas, a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH TC-23C) may be used. Follow respirator manufacturer's directions for respirator use. Do not permit anyone without protection in the painting area. Individuals with history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to vapor or spray mist.

Protective clothing:

Neoprene gloves and coveralls are recommended.

Eye protection:

Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

***** SECTION 9 - Physical and Chemical Properties *****

Evaporation Rate	Slower than Ether
Vapor Pressure of principal solvent	10.00 mmHg @ 20 Deg C
Solubility of solvent in water	NIL
Vapor density of principal solvent (Air = 1)	4.00
Approx. Boiling range	220 DEG (C)
Approx. Freezing range	-51 DEG (C)
Gallon weight (lbs/gal)	9.35
Specific gravity	1.12
Percent volatile by volume	12.77
Percent volatile by weight	10.00
Percent solids by volume	87.23
Percent solids by weight	90.00
Odor	Characteristic Paint Odor
Appearance	Semi-viscous liquid
Physical state	Liquid
pH (waterborne systems only)	Not Applicable
VOC* less exempt (lbs/gal)	0.9
VOC* as packaged (lbs/gal)	0.9



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***** SECTION 9 - Physical and Chemical Properties *****
Cont'd

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

***** SECTION 10 - Stability and Reactivity *****

Stability:

Stable

Incompatibility (materials to avoid):

water, alcohols, amines

Hazardous decomposition products:

CO, CO₂, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Hazardous polymerization:

Will not occur.

Sensitivity to static discharge:

If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to mechanical impact:

None Known

***** SECTION 11 - Toxicological Information *****

No Information Available

***** SECTION 12 - Ecological Information *****

No Information Available

***** SECTION 13 - Disposal Considerations *****

Waste disposal method:

Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

***** SECTION 14 - Transportation Information *****

No Information Available

***** SECTION 15 - Regulatory Information *****

TSCA Status:

In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status:

All components of the mixture are listed on the DSL.



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***** SECTION 15 - Regulatory Information *****
Cont'd

Photochemical Reactivity: Photochemically reactive

Other Regulatory Information:

CAS #	Ingredient	EPCRA			CERCLA		
		302	TPQ/RQ	311/312	313	RQ (lbs)	HAP
822-06-0	1,6-HEXAMETHYLENE DIISOCYANATE	N	NR	C	Y	100	Y
28182-81-2	ALIPHATIC POLYISOCYANATE-RESIN	N	NR	A,C,R	N	NR	N
123-86-4	BUTYL ACETATE	N	NR	A,C,F	N	NR	N
64742-95-6	AROMATIC HYDROCARBON	N	NR	A,C,F	N	NR	N
95-63-6	1,2,4-TRIMETHYL BENZENE	N	NR	A,C	Y	NR	N

Key:

EPCRA: Emergency Planning and Community Right-to-Know Act
(aka Title III, SARA)

302: Extremely hazardous substances

311/312 Categories: F = Fire Hazard A = Acute Hazard
R = Reactivity Hazard C = Chronic Hazard
P = Pressure Related Hazard

313 Information: Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.

CERCLA: Comprehensive Emergency Response, Compensation and Liability Act of 1980.

HAP = Listed as a Clean Air Act Hazardous Air Pollutant

TPQ = Threshold planning quantity

RQ = Reportable quantity

NA = not available

NR = not regulated

***** SECTION 16 - Additional Information *****

HMIS Rating: H: 2 F: 2 R: 1

NFPA Rating: H: F: R:

Glossary of Terms:

- ACGIH - American Conference of Governmental Industrial Hygienists
- IARC - International Agency for Research on Cancer
- NTP - National Toxicology Program
- OSHA - Occupational Safety and Health Administration
- STEL - Short term exposure limit
- TWA - Time-weighted average
- PNOR - Particles not otherwise regulated
- PNOC - Particles not otherwise classified



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***** SECTION 16 - Additional Information *****
Cont'd

NOTICE FROM DUPONT

The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or any process.

MSDS prepared by:

Performance Coatings Regulatory Affairs Consultant.

MATERIAL SAFETY DATA SHEET03702
04 00DATE OF PREPARATION
Apr 5, 2012**SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION****PRODUCT NUMBER**

03702

PRODUCT NAME

KRYLON® Industrial QUIK-MARK™ Solvent-Based Inverted Marking Paint (Fluorescent), Orange

MANUFACTURER'S NAMETHE 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	
9	142-82-5	Heptane	ACGIH TLV	400 PPM	50 mm
			ACGIH TLV	500 PPM STEL	
			OSHA PEL	400 PPM	
			OSHA PEL	500 PPM STEL	
7	64742-89-8	V. M. & P. Naphtha	ACGIH TLV	300 PPM	12 mm
			OSHA PEL	300 PPM	
			OSHA PEL	400 PPM STEL	
0.4	100-41-4	Ethylbenzene	ACGIH TLV	20 PPM	7.1 mm
			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	
27	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.

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

- the liver
- the urinary system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

SECTION 4 — FIRST AID MEASURES

- EYES:** Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
 Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	EXTINGUISHING MEDIA
Propellant < 0 °F	0.9	9.5	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	7.37 lb/gal	883 g/l
SPECIFIC GRAVITY	0.89	
BOILING POINT	<0 - 325 °F	<-18 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	78%	
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 56.25%

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.

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

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	
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

S03401
04 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

S03401

PRODUCT NAME

KRYLON® QUIK-MARK™ Water-Based Inverted Marking Paint (APWA), Brilliant 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

*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)

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	
6	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	
2	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	
8	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	
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.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

HMS 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, 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	6.87 lb/gal	823 g/l
SPECIFIC GRAVITY	0.83	
BOILING POINT	<0 - 325 °F	<-18 - 162 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	93%	
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 49.40%

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
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
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
471-34-1	Calcium Carbonate	LC50 RAT LD50 RAT	4HR	Not Available Not Available
13463-67-7	Titanium Dioxide	LC50 RAT LD50 RAT	4HR	Not Available Not Available

SECTION 12 — ECOLOGICAL INFORMATION**ECOTOXICOLOGICAL INFORMATION**

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U, ADR (D)

IATA/ICAO

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

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

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
110-54-3	Hexane	6	
108-88-3	Toluene	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

RTA9206
10 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

RTA9206

PRODUCT NAME

RUST TOUGH® Rust Preventive Enamel (aerosol), Battleship Gray

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
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	
5	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	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	
32	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
4	108-10-1	Methyl Isobutyl Ketone		
		ACGIH TLV	50 PPM	16 mm
		ACGIH TLV	75 PPM STEL	
		OSHA PEL	50 PPM	
		OSHA PEL	75 PPM STEL	
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	
0.2	1333-86-4	Carbon Black		
		ACGIH TLV	3.5 MG/M3	
		OSHA PEL	3.5 MG/M3	

SECTION 3 — HAZARDS IDENTIFICATION**ROUTES OF EXPOSURE**

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

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.

HMS Codes

Health	2*
Flammability	3
Reactivity	0

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES**FLASH POINT**

Propellant < 0 °F

LEL

0.9

UEL

12.8

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.
 Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
 Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m³ (total dust), 3 mg/m³ (respirable fraction), OSHA PEL 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
 When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.55 lb/gal	784 g/l
SPECIFIC GRAVITY	0.79	
BOILING POINT	<0 - 325 °F	<-18 - 162 °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 47.12% Less Water and Federally Exempt Solvents

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

Carbon Black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is insufficient evidence in humans for its carcinogenicity.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	Propane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
106-97-8	Butane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
64742-89-8	V. M. & P. Naphtha	LC50 RAT LD50 RAT	4HR	Not Available Not Available
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
67-64-1	Acetone	LC50 RAT LD50 RAT	4HR	Not Available 5800 mg/kg
108-10-1	Methyl Isobutyl Ketone	LC50 RAT LD50 RAT	4HR	Not Available 2080 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	12	
100-41-4	Ethylbenzene	0.1	
1330-20-7	Xylene	1	
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 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

RTA9218
04 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

RTA9218

PRODUCT NAME

RUST TOUGH® Rust Preventive Enamel (aerosol), Flat Black

MANUFACTURER'S NAMEKrylon 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
15	74-98-6	Propane	ACGIH TLV 2500 PPM OSHA PEL 1000 PPM	760 mm
7	106-97-8	Butane	ACGIH TLV 800 PPM OSHA PEL 800 PPM	760 mm
4	64742-89-8	V. M. & P. Naphtha	ACGIH TLV 300 PPM OSHA PEL 300 PPM OSHA PEL 400 PPM STEL	12 mm
10	108-88-3	Toluene	ACGIH TLV 20 PPM OSHA PEL 100 ppm (Skin) OSHA PEL 150 ppm (Skin) STEL	22 mm
0.2	100-41-4	Ethylbenzene	ACGIH TLV 20 PPM OSHA PEL 100 PPM OSHA PEL 125 PPM STEL	7.1 mm
37	67-64-1	Acetone	ACGIH TLV 500 PPM ACGIH TLV 750 PPM STEL OSHA PEL 1000 PPM	180 mm
5	108-10-1	Methyl Isobutyl Ketone	ACGIH TLV 50 PPM ACGIH TLV 75 PPM STEL OSHA PEL 50 PPM OSHA PEL 75 PPM STEL	16 mm
3	112926-00-8	Amorphous Precipitated Silica	ACGIH TLV 10 mg/m3 as Dust OSHA PEL 6 mg/m3 as Dust	
0.9	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.

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 launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES**FLASH POINT**

Propellant < 0 °F

LEL

0.9

UEL

12.8

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m³ (total dust), 3 mg/m³ (respirable fraction), OSHA PEL 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.42 lb/gal	769 g/l
SPECIFIC GRAVITY	0.77	
BOILING POINT	<0 - 325 °F	<-18 - 162 °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 43.83%

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
67-64-1	Acetone	LC50 RAT LD50 RAT	4HR	Not Available 5800 mg/kg
108-10-1	Methyl Isobutyl Ketone	LC50 RAT LD50 RAT	4HR	Not Available 2080 mg/kg
112926-00-8	Amorphous Precipitated Silica	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	10	
100-41-4	Ethylbenzene	0.1	
108-10-1	Methyl Isobutyl Ketone	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

RTA9202
05 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

RTA9202

PRODUCT NAME

RUST TOUGH® Rust Preventive Enamel (aerosol), Gloss Black

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
<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 OSHA PEL	760 mm
			2500 PPM 1000 PPM	
7	106-97-8	Butane	ACGIH TLV OSHA PEL	760 mm
			800 PPM 800 PPM	
6	64742-89-8	V. M. & P. Naphtha	ACGIH TLV OSHA PEL OSHA PEL	12 mm
			300 PPM 300 PPM 400 PPM STEL	
11	108-88-3	Toluene	ACGIH TLV OSHA PEL OSHA PEL	22 mm
			20 PPM 100 ppm (Skin) 150 ppm (Skin) STEL	
0.3	100-41-4	Ethylbenzene	ACGIH TLV OSHA PEL OSHA PEL	7.1 mm
			20 PPM 100 PPM 125 PPM STEL	
2	1330-20-7	Xylene	ACGIH TLV ACGIH TLV OSHA PEL OSHA PEL	5.9 mm
			100 PPM 150 PPM STEL 100 PPM 150 PPM STEL	
34	67-64-1	Acetone	ACGIH TLV ACGIH TLV OSHA PEL	180 mm
			500 PPM 750 PPM STEL 1000 PPM	
4	108-10-1	Methyl Isobutyl Ketone	ACGIH TLV ACGIH TLV OSHA PEL OSHA PEL	16 mm
			50 PPM 75 PPM STEL 50 PPM 75 PPM STEL	
0.5	1333-86-4	Carbon Black	ACGIH TLV OSHA PEL	
			3.5 MG/M3 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 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.

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.

Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES**FLASH POINT**

Propellant < 0 °F

LEL

0.9

UEL

12.8

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m³ (total dust), 3 mg/m³ (respirable fraction), OSHA PEL 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.35 lb/gal	761 g/l
SPECIFIC GRAVITY	0.76	
BOILING POINT	<0 - 325 °F	<-18 - 162 °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 47.00%

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

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
67-64-1	Acetone	LC50 RAT LD50 RAT	4HR	Not Available 5800 mg/kg
108-10-1	Methyl Isobutyl Ketone	LC50 RAT LD50 RAT	4HR	Not Available 2080 mg/kg
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	11	
100-41-4	Ethylbenzene	0.2	
1330-20-7	Xylene	2	
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 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

RTA9205
04 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

RTA9205

PRODUCT NAME

RUST TOUGH® Rust Preventive Enamel (aerosol), Gray Primer

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	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
6	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
4	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 PPM	12 mm
		OSHA PEL	300 PPM	
		OSHA PEL	400 PPM STEL	
20	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
2	78-83-1	2-Methyl-1-propanol		
		ACGIH TLV	50 PPM	8.7 mm
		OSHA PEL	50 PPM	
35	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
8	14807-96-6	Talc		
		ACGIH TLV	2 mg/m3 as Resp. Dust	
		OSHA PEL	2 mg/m3 as Resp. Dust	
1	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	
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.**HMS 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 launder before re-use.**INHALATION:** If affected, remove from exposure. Restore breathing. Keep warm and quiet.**INGESTION:** Do not induce vomiting. Get medical attention immediately.**SECTION 5 — FIRE FIGHTING MEASURES****FLASH POINT**

Propellant < 0 °F

LEL

0.9

UEL

12.8

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.75 lb/gal	808 g/l
SPECIFIC GRAVITY	0.81	
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	N.A.	
pH	7.0	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

Volatile Weight 45.42% 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
78-83-1	2-Methyl-1-propanol	LC50 RAT LD50 RAT	4HR	Not Available 2460 mg/kg
67-64-1	Acetone	LC50 RAT LD50 RAT	4HR	Not Available 5800 mg/kg
14807-96-6	Talc	LC50 RAT LD50 RAT	4HR	Not Available Not Available
471-34-1	Calcium Carbonate	LC50 RAT LD50 RAT	4HR	Not Available Not Available
13463-67-7	Titanium Dioxide	LC50 RAT LD50 RAT	4HR	Not Available Not Available

SECTION 12 — ECOLOGICAL INFORMATION**ECOTOXICOLOGICAL INFORMATION**

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U, ADR (D)

IATA/ICAO

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

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

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	20	

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

1303
06 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

1303

PRODUCT NAME

KRYLON® Crystal Clear Acrylic Coating

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 OSHA PEL 2500 PPM 1000 PPM	760 mm
13	106-97-8	Butane	ACGIH TLV OSHA PEL 800 PPM 800 PPM	760 mm
17	108-88-3	Toluene	ACGIH TLV OSHA PEL OSHA PEL 20 PPM 100 ppm (Skin) 150 ppm (Skin) STEL	22 mm
3	64742-94-5	Medium Aromatic Hydrocarbons	ACGIH TLV OSHA PEL Not Available Not Available	0.12 mm
0.4	91-20-3	Naphthalene	ACGIH TLV ACGIH TLV OSHA PEL OSHA PEL 10 PPM 15 PPM STEL 10 PPM 15 PPM STEL	1 mm
41	67-64-1	Acetone	ACGIH TLV ACGIH TLV OSHA PEL 500 PPM 750 PPM STEL 1000 PPM	180 mm
4	763-69-9	Ethyl 3-Ethoxypropionate	ACGIH TLV OSHA PEL Not Available Not Available	1.11 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 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 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

12.8

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 50.64%

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.

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	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

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	
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

1301
06 00

DATE OF PREPARATION
Apr 5, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

1301

PRODUCT NAME

KRYLON® DECORATOR Spray Paints, Acrylic Crystal Clear

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 OSHA PEL	760 mm
			2500 PPM 1000 PPM	
13	106-97-8	Butane	ACGIH TLV OSHA PEL	760 mm
			800 PPM 800 PPM	
17	108-88-3	Toluene	ACGIH TLV OSHA PEL OSHA PEL	22 mm
			20 PPM 100 ppm (Skin) 150 ppm (Skin) STEL	
3	64742-94-5	Medium Aromatic Hydrocarbons	ACGIH TLV OSHA PEL	0.12 mm
			Not Available Not Available	
0.4	91-20-3	Naphthalene	ACGIH TLV ACGIH TLV OSHA PEL OSHA PEL	1 mm
			10 PPM 15 PPM STEL 10 PPM 15 PPM STEL	
41	67-64-1	Acetone	ACGIH TLV ACGIH TLV OSHA PEL	180 mm
			500 PPM 750 PPM STEL 1000 PPM	
4	763-69-9	Ethyl 3-Ethoxypropionate	ACGIH TLV OSHA PEL	1.11 mm
			Not Available 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.**HMS 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

0.8

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)

Volatle Weight 50.64%

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.

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	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

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	
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.

Aerove 200 Clear Marking Coat - Aerosol

AERVOE[®] Material Safety Data Sheet

The information presented in these forms is believed to be correct and sufficient to meet the requirements of OSHA Hazard Communication standard (29 CFR 1910.1200) concerning worker's right to know. This MSDS covers the following Aerove aerosol product.

PRODUCT NAME: 200 Clear Marking Coat

SECTION I - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: Aerove Industries Inc. ADDRESS: 1198 Mark Cirde, Gardnerville, NV 89410
 INFORMATION PHONE: 775-782-0100 EMERGENCY PHONE: 1-800-424-9300
 DATE REVISED: January 22, 2007 REASON REVISED: Updated

SECTION II - HAZARDOUS INGREDIENTS / SARA III INFORMATION

HAZARDOUS COMPONENTS	WEIGHT PERCENT	OCCUPATIONAL EXPOSURE LIMITS				LC50 SPECIES & ROUTE
		OSHA PEL	ACGIH TLV	LD50 SPECIES & ROUTE	5800 mg / kg (Rat-Oral)	
Acetone (CAS 67-64-1)	40 - 70	1000ppm	500ppm	5800 mg / kg (Rat-Oral)	21000ppm / 8 hr (Rat-inh)	N / AV
Hydrocarbon Propellant (CAS 68476-88-8)	10 - 30	1000ppm	1000ppm	N / AV	N / AV	N / AV
Aliphatic Petroleum Distillates (CAS 64742-89-8)	5 - 10	N / AV	300ppm	N / AV	N / AV	N / AV
Propylene Glycol Methyl Ether Acetate (CAS 108-66-6)	1 - 5	N / AV	N / AV	N / AV	N / AV	N / AV
Ethyl Acetate (CAS 141-78-6)	1 - 5	400ppm	400ppm	N / AV	N / AV	N / AV
Methyl Ethyl Ketone (CAS 78-93-3)	1 - 5	200ppm	200ppm	N / AV	N / AV	N / AV
n-Butyl Acetate (CAS 123-86-4)	1 - 5	150ppm	150ppm	N / AV	N / AV	N / AV

*Indicates toxic chemical(s) subject to the reporting requirements of section 313 of TII II and of 40CFR372.

NOTE: N / AP = Not Applicable N / AV = Not Available

200 Clear Marking Coat January 22, 2007

SECTION III - PHYSICAL / CHEMICAL CHARACTERISTICS

BOILING POINT: N / AP
 VAPOR DENSITY: Heavier than air
 SOLUBILITY IN WATER: Partial
 EVAPORATION RATE: Faster than n-Butyl Acetate
 APPEARANCE AND ODOR: Clear liquid with ketone odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: < 0° F (-18° C) METHOD USED: Estimated FLAMMABLE LIMITS IN AIR BY VOLUME-LOWER: 1.0% UPPER: 15.0%
 EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Water Spray
 SPECIAL FIRE FIGHTING PROCEDURES: Use water spray to cool containers exposed to heat or fire to prevent pressure build up. Self-contained breathing apparatus should be used if product is involved in fire.
 UNUSUAL FIRE AND EXPLOSION HAZARDS: Treat as cylinders of compressed gas. Closed containers may rupture due to pressure build up from extreme temperature.
 FLAMMABILITY: Flammable aerosol under conditions of sparks, flame, or hot surfaces.
 SENSITIVITY TO IMPACT: Aerosol cans are under pressure. Product will be expelled rapidly if container is punctured.
 SENSITIVITY TO STATIC DISCHARGE: Primarily vapors

SECTION V - REACTIVITY DATA

STABILITY: Stable
 INCOMPATIBILITY (MATERIALS TO AVOID): Open flames, sparks, electrical arcs.
 HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Dioxide, Carbon Monoxide
 HAZARDOUS POLYMERIZATION: Will not occur

SECTION VI - HEALTH HAZARD DATA

INHALATION: Respiratory tract irritant. May cause dizziness, light-headedness and / or headaches.
 SKIN CONTACT: Prolonged or repeated contact may cause irritation and dermatitis.
 EYE CONTACT: Painful with slight to moderate irritation.
 SKIN ABSORPTION: Not likely to be absorbed in toxic amounts under normal use.
 INGESTION: Not likely in normal use but swallowing large amounts may be harmful or fatal.
 CARCINOGENICITY: The ingredients are not listed as a human carcinogen by IARC, ACGIH, NTP, or OSHA.
 TERATOGENICITY: Not established
 MUTAGENICITY: Not established
 MEDICAL CONDITION GENERALLY AGGRAVATED BY EXPOSURE: Not established
 EMERGENCY AND FIRST AID PROCEDURES: INHALATION - Remove from exposure, seek medical attention if signs/symptoms persist.
 SKIN - Wash affected area with soap and water, remove contaminated clothing, seek medical attention if irritation persists.
 EYES - Flush immediately with water for 15 minutes, seek medical attention if irritation persists.
 INGESTION - Do NOT induce vomiting, seek medical attention.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove all sources of ignition. Ventilate area. Prevent from entering a watercourse. Use an inert absorbent material and non-sparking type tools.
 WASTE DISPOSAL METHOD: Dispose of in accordance with local, state and federal regulations. Do not incinerate closed containers.
 PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do not store above 120° F (49°C). Do not store or use near heat, sparks or flame.
 OTHER PRECAUTIONS: Do not smoke while using this product. Dust from sanding the dry paint film should be treated as a nuisance dust with an OSHA PEL (TWA) of 15 mg / cubic meter.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: In areas with poor ventilation, use a NIOSH approved Organic Vapor Cartridge Respirator. For concentrations above the TLV (as defined in Section II), use a positive air supplied respirator.
 VENTILATION: General ventilation to maintain exposure limits below TLV's as defined in Section II.
 PROTECTIVE GLOVES: Chemical resistant gloves such as Neoprene or Nitrile rubber.
 EYE PROTECTION: Safety glasses or goggles
 OTHER PROTECTIVE CLOTHING OR EQUIPMENT: None
 WORK / HYGIENIC PRACTICES: Avoid prolonged or repeated contact. Do not breathe vapors. Wash contaminated clothing prior to reuse.

SECTION IX - DISCLAIMER

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE SO. NOTHING CONTAINED HEREIN CONSTITUTES A SPECIFICATION NOR IS IT INTENDED TO WARRANT SUITABILITY FOR THE INTENDED USE.

PRODUCT: Polyvinyl Chloride Conduit/Fittings/Accessories

DATE PREPARED: 5/04

MANUFACTURER:

CANTEX, INC.
 2101 Southeast 1st Street
 Post Office Box 340
 Mineral Wells, Texas 76068

 HAZARDOUS INGREDIENTS INFORMATION

HAZARDOUS COMPONENTS	OSHA PEL	ACGIH TLV	%
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PVC materials in conduit or molded form are inert and should not constitute any hazard in normal use or handling.

*THIS PRODUCT DOES X DOES NOT CONTAIN TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 AND OF 40CFR372.

HMIS
 HEALTH

REACTIVITY

FLAMMABILITY

 PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT:	N.A.	SPECIFIC GRAVITY (H ₂ O=1):	1.42 gms/cc
VAPOR PRESSURE (MM=Hg):	N.A.	MELTING POINT:	N.A.
VAPOR DENSITY (AIR=1):	N.A.	EVAPORATION RATE:	N.A.
		(butyl acetate=1)	

SOLUBILITY IN WATER: Insoluble

APPEARANCE AND ODOR: N.A.

 FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (method used)
 Ignition Temp. Above 734° F

FLAMMABLE LIMITS
 N.A.

EXTINGUISHING MEDIA: Water, foam and dry chemicals

SPECIAL FIRE FIGHTING PROCEDURES: PVC gives off thick smoke and toxic gasses such as carbon monoxide when burning. Firefighters must wear self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Combustion products are hazardous and toxic in nature. Thick smoke may obscure vision. PVC pipe and conduit will not burn unless supported by other combustible material.

REACTIVITY DATA

STABILITY: STABLE

INCOMPATIBILITY: N.A.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, HYDROGEN CHLORIDE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: Under most circumstances, exposure to PVC pipe materials poses no significant risk to health. During fire, toxic fumes, such as carbon monoxide and other gases are given off which are injurious to all sensitive skin areas and the breathing function. Skin irritation and coughing may result.

INHALATION: N.A.

SKIN CONTACT: N.A.

EYE CONTACT: N.A.

INGESTION: N.A.

CHRONIC: N.A.

EMERGENCY FIRST AID PROCEDURES:

EYES: N.A.

SKIN: N.A.

INGESTION: N.A.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N.A.

SUSPECTED CANCER AGENT: IARC: NO NTP: NO OSHA: NO

SPILL OR LEAK PROCEDURES

IF MATERIAL IS SPILLED: Not applicable to PVC in pipe form. In pelletized, machined shavings or off-cut form, sweep up and place in suitable container for disposal.

WASTE DISPOSAL METHOD: LANDFILL PVC is an inert plastic material. No special disposal procedures are necessary other than complying with local, state and federal regulations.

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Non-toxic nuisance dust mask may be advised in presence of heavy saw dusting.

VENTILATION: Mechanical (General) in areas of thermal processing.

HAND PROTECTION: Gloves in areas involving molten PVC

EYE PROTECTION: In areas involving molten PVC

OTHER PROTECTION: None required

SPECIAL PRECAUTIONS

California Proposition 65 Statement:

No chemicals used to manufacture our products are reportable under this law.

THE DATA CONTAINED HEREIN ARE BASED ON INFORMATION THAT CANTEX BELIEVES TO BE RELIABLE, BUT NO EXPRESSED OR IMPLIED WARRANTY IS MADE WITH REGARD TO THE ACCURACY OF SUCH DATA OR ITS SUITABILITY FOR A GIVEN SITUATION.

CANTEX

GHS SAFETY DATA SHEET

CANTEX #10 PUR Low VOC Primer for PVC and CPVC Plastic Pipe

Date Revised: APR 2010
Supersedes: OCT 2009

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: CANTEX #10 PUR Low VOC Primer for PVC and CPVC Plastic Pipe
PRODUCT USE: Low VOC Primer for PVC and CPVC Plastic Pipe
SUPPLIER:

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: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International) **Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Acute Toxicity: Category 4 Skin Irritation: Category 3 Skin Sensitization: NO Eye: Category 2B	Health	Acute Toxicity: None Known Chronic Toxicity: None Known	Environmental	Flammable Liquid	Physical	Category 2
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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 H336: 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
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SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH	CONCENTRATION
			Pre-registration Number	% by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	15 - 25
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	15 - 25
Cyclohexanone	67-64-1	200-662-2	05-2116297713-35-0000	25 - 40
Acetone	108-94-1	203-631-1	05-2116297718-25-0000	10 - 30

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).

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.	HMIS	NFPA	0-Minimal
Unsuitable Extinguishing Media: Water spray or stream.	Health	2	1-Slight
Exposure Hazards: Inhalation and dermal contact	Flammability	3	2-Moderate
Combustion Products: Oxides of carbon and smoke	Reactivity	0	3-Serious
Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.			4-Severe

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	
	Acetone	500 ppm	750 ppm	1000 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 or purple, thin liquid	Odor Threshold:	0.88 ppm (Cyclohexanone)
Odor:	Ethereal	Bolting Range:	56°C (133°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:	56°C (133°F) Based on first boiling component: Acetone	Flammability Limits:	LEL: 1.1% based on Cyclohexanone UEL: 12.8% based on Acetone
Flash Point:	-20°C (-4°F) TCC based on Acetone	Vapor Pressure:	190 mm Hg @ 20°C (68°F) Acetone
Specific Gravity:	0.842 @23°C (73°F)	Vapor Density:	>2.0 (Air = 1)
Solubility:	Solvent portion soluble in water. Resin portion separates out.	Other Data: Viscosity:	Water-thin
Partition Coefficient n-octanol/water:	Not Available		
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: ≤ 550 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 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:

	LD₅₀	LC₅₀
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)
Acetone	Oral: 6800 mg/kg (rat)	Inhalation 50,100 mg/m ³ (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 ≤ 550 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:	Flammable Liquid, n.o.s. (Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran)
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1993
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:	Flammable Liquid, n.o.s. (Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran)
UN NUMBER/PACKING GROUP:	UN 1993, 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:	4/28/2010 / Updated GHS Standard Format	
Intended Use of Product:	Primer for PVC and CPVC 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.

CANTEX

GHS SAFETY DATA SHEET

CANTEX ALL WHEATHER CLR Low VOC Cement for Plastic Pipe

Date Revised: APR 2010
Supersedes: SEP 2009

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: CANTEX ALL WHEATHER CLR Low VOC Cement for Plastic Pipe
PRODUCT USE: Low VOC Solvent Cement for PVC Plastic Pipe
SUPPLIER: **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: Tel. 800.424.9300, 703.527.3887 CHEMTREC (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 Skin Irritation: Category 3 Skin Sensitization: NO Eye: Category 2B	Acute Toxicity: None Known Chronic Toxicity: None Known	Flammable Liquid Category 2

GHS LABEL:   OR   **Signal Word:** Danger **WHMIS CLASSIFICATION:** CLASS B, DIVISION 2

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor H319: Causes serious eye irritation H335: May cause respiratory irritation H336: May cause drowsiness or dizziness EUH019: May form explosive peroxides	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 P337-P313: Get medical advice/attention 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	30 - 50
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	4 - 15
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 15
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	8 - 17

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).

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.	HMIS	NFPA	0-Minimal
Unsuitable Extinguishing Media: Water spray or stream.	Health	2	1-Slight
Exposure Hazards: Inhalation and dermal contact	Flammability	3	2-Moderate
Combustion Products: Oxides of carbon, hydrogen chloride and smoke	Reactivity	0	3-Serious
Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.			4-Severe

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	
	Acetone	500 ppm	750 ppm	1000 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, medium syrupy liquid	Odor Threshold:	0.88 ppm (Cyclohexanone)
Odor:	Ketone	Boiling Range:	56°C (133°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:	56°C (133°F) Based on first boiling component: Acetone	Flammability Limits:	LEL: 1.1% based on Cyclohexanone UEL: 12.8% based on Acetone
Flash Point:	-20°C (-4°F) TCC based on Acetone	Vapor Pressure:	190 mm Hg @ 20°C (68°F) Acetone
Specific Gravity:	0.934 @23°C (73°F)	Vapor Density:	>2.0 (Air = 1)
Solubility:	Solvent portion soluble in water. Resin portion separates out.	Other Data: Viscosity:	Medium bodled
Partition Coefficient n-octanol/water:	Not Available		
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:	LD ₅₀	LC ₅₀
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)
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m ³ (rat)

Reproductive Effects Not Established	Teratogenicity Not Established	Mutagenicity Not Established	Embryotoxicity Not Established	Sensitization to Product Not Established	Synergistic Products Not Established
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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	R66:	Repeated exposure may cause skin dryness or cracking
Risk Phrases:	R11: Highly flammable. R36/37: Irritating to eyes and respiratory system.	R67:	Vapors may cause drowsiness and dizziness
Safety Phrases:	S2: Keep out of the reach of children S9: Keep container in a well-ventilated place. S16: Keep away from sources of ignition - No smoking.	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.

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:	4/28/2010 / 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.

CANTEX

GHS SAFETY DATA SHEET

Date Revised: JUN 2010
Supersedes: FEB 2005

CANTEX #99 CLEAR Low VOC PVC Plastic Pipe Cement

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: CANTEX #99 CLEAR Low VOC PVC Plastic Pipe Cement
PRODUCT USE: Low VOC Solvent Cement for PVC Plastic Pipe
SUPPLIER:

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: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International) **Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

<p>Health Acute Toxicity: Category 4 Skin Irritation: Category 3 Skin Sensitization: NO Eye: Category 2B</p>	<p>Environmental Acute Toxicity: None Known Chronic Toxicity: None Known</p>	<p>Physical Flammable Liquid Category 2</p>
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GHS LABEL:   **OR**   **Signal Word:** Danger **WHMIS CLASSIFICATION:** CLASS B, DIVISION 2

<p>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</p>	<p>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</p>
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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	5 - 15
Methyl Ethyl Ketone (MEK)	78-93-3	201-169-0	05-2116297728-24-0000	30 - 45
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 15
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	15 - 35

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).

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. **HMIS** **NFPA** 0-Minimal
Unsuitable Extinguishing Media: Water spray or stream. **Health** 2 **2** 1-Slight
Exposure Hazards: Inhalation and dermal contact **Flammability** 3 **3** 2-Moderate
Combustion Products: Oxides of carbon, hydrogen chloride and smoke **Reactivity** 0 **0** 3-Serious
Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks. **4** 4-Severe

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	
	Acetone	500 ppm	750 ppm	1000 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:	56°C (133°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:	56°C (133°F) Based on first boiling component: Acetone	Flammability Limits:	LEL: 1.1% based on Cyclohexanone UEL: 12.8% based on Acetone
Flash Point:	-20°C (-4°F) TCC based on Acetone	Vapor Pressure:	190 mm Hg @ 20°C (68°F) Acetone
Specific Gravity:	0.894 @23°C (73°F)	Vapor Density:	>2.0 (Air = 1)
Solubility:	Solvent portion soluble in water. Resin portion separates out.	Other Data: Viscosity:	Regular bodied
Partition Coefficient n-octanol/water:	Not Available		
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:	LD ₅₀	LC ₅₀
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)
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m ³ (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	R66:	Repeated exposure may cause skin dryness or cracking
Risk Phrases:	R11: Highly flammable. R20-Harmful by inhalation. R36/37: Irritating to eyes and respiratory system.	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@pscCorp.com>	
Training necessary:	Yes, training in practices and procedures contained in product literature.	
Reissue date / reason for reissue:	6/2/2010 / 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.

MSDS No: CAR020C5
 Issue Date: 25 Aug. 2005
 Page: 1 of 5

MATERIAL SAFETY DATA SHEET**SECTION 1****PRODUCT AND COMPANY IDENTIFICATION**

Trade Name: CARLON ELECTRICAL PRODUCTS ALL WEATHER QUICKSET CLEAR CEMENT
 Product Numbers: VC9981P, VC9982, VC9983, VC9984, VC9983, VC9985C, VC9983C
 Product Use: Cement for PVC Plastic Pipe
 Formula: PVC Resin in Solvent Solution
 Synonyms: PVC Plastic Pipe Cement
 Firm Name & Mailing Address: CARLON ELECTRICAL PRODUCTS c/o OATEY CO. 4700 West 160th Street
 P.O. Box 35906 Cleveland, Ohio 44135, U.S.A.
 http://www.oatey.com
 Oatey Phone Number: (216) 267-7100 or (800) 321-9532
 Emergency Phone Numbers: For Emergency First Aid call 1-303-623-5716 COLLECT. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1-703-527-3887.
 Prepared By: Corporate Director - Safety and Environmental Compliance
 Preparation Date: August 25, 2005

SECTION 2**COMPOSITION/INFORMATION ON INGREDIENTS**

<u>INGREDIENTS:</u>	<u>%wt/wt:</u>	<u>CAS NUMBER:</u>	<u>ACGIH TLV TWA:</u>	<u>OSHA PEL TWA:</u>	<u>OTHER:</u>
Tetrahydrofuran	40 - 55%	109-99-9	50 ppm(skin) 100 ppm STEL	200 ppm	25 ppm (Mfg)
PVC Resin (Non-hazardous)	12 - 24%	9002-86-2	10 mg/m3	15 mg/m3	None
Acetone	10 - 25%	67-64-1	500 ppm 750 ppm STEL	1000 ppm	None
Cyclohexanone	10 - 20%	108-94-1	20 ppm(skin) 50 ppm STEL	50 ppm	None
Amorphous Fumed Silica (Non-hazardous)	1 - 5%	112945-52-5	10 mg/m3	None Established	None

OSHA Hazard Classification: Flammable, irritant, organ effects

SECTION 3**HAZARDS IDENTIFICATION**

Emergency Overview:
 Clear liquid with an ether-like odor. Extremely flammable liquid and vapor. Vapors may cause flash fire. May cause eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects. Swallowing may cause irritation, nausea, vomiting, diarrhea and kidney or liver disorders. Aspiration hazard. May be fatal if swallowed. Symptoms may be delayed.

SECTION 4**FIRST AID MEASURES**

CALL 1-303-623-5716 COLLECT

Skin: Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with Oatey Plumber's Hand Cleaner or baby oil.

Eyes: If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

Inhalation: If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

Ingestion: **DO NOT INDUCE VOMITING.** Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

SECTION 5 FIRE FIGHTING MEASURES

Flashpoint / Method: 0 - 5 Degrees F. (-18 - -15 Degrees C / PMCC
Flammability: LEL = 1.8 % Volume, UEL = 11.8 % Volume
Extinguishing Media: Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.
Special Fire Fighting Procedure: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored
Unusual Fire and Explosion Hazards: Extremely flammable liquid. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.
Hazardous Decomposition Products: Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Remove all sources of ignition and ventilate area. Stop leak if it can be done without risk. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with an inert absorbent such as sand, earth or other non-combusting material. Put absorbent material in covered, labeled metal containers. Prevent liquid from entering watercourses, sewers and natural waterways. Report releases to authorities as required. See Section 13 for disposal information.

SECTION 7 HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.
Storage: Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.
Other: "Empty" containers retain product residue and can be hazardous. Follow all MSDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.
Respiratory Protection: For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.
Skin Protection: Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

SECTION 8 (Continued)

Eye Protection: Safety glasses with sideshields or safety goggles.
Other: Eye wash and safety shower should be available.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 151 Degrees F / 66 Degrees C
Melting Point: Not Applicable
Vapor Pressure: 145 mmHg @ 20 Degrees C
Vapor Density: (Air = 1) 2.5
Volatile Components: 81-85%
Solubility In Water: Negligible
pH: Not Applicable
Specific Gravity: 0.94 +/- 0.01 @ 20 Degrees C
Evaporation Rate: (BUAC = 1) = 5.5 - 8.0
Appearance: Clear Liquid
Odor: Ether-Like
Will Dissolve In: Tetrahydrofuran
Material Is: Liquid

SECTION 10 STABILITY AND REACTIVITY

Stability: Stable.
Conditions To Avoid: Avoid heat, sparks, flames and other sources of ignition.
Hazardous: Combustion will produce toxic and irritating vapors
Decomposition: including carbon monoxide, carbon dioxide and hydrogen
Products: chloride.
Incompatibility/ Oxidizing agents, alkalis, amines, ammonia, acids, chlorine
Materials To Avoid: compounds, chlorinated inorganics (potassium, calcium and
sodium hypochlorite) and hydrogen peroxides. May attack
plastic, resins and rubber.
Hazardous: Will not occur.
Polymerization:

SECTION 11 TOXICOLOGICAL INFORMATION

Inhalation: Vapors or mists may cause mucous membrane and respiratory
irritation, coughing, headache, dizziness, dullness, nausea,
shortness of breath and vomiting. High concentrations may cause
central nervous system depression, narcosis and unconsciousness.
May cause kidney, liver and lung damage.
Skin: May cause irritation with redness, itching and pain. Cyclohexanone
may be absorbed through the skin causing effects similar to those
listed under inhalation.
Eye: Vapors may cause irritation. Direct contact may cause irritation
with redness, stinging and tearing of the eyes. May cause eye
damage.
Ingestion: Swallowing may cause abdominal pain, nausea, vomiting and
diarrhea. Aspiration during swallowing or vomiting can cause
chemical pneumonia and lung damage. May cause kidney and liver
damage.
Chronic Toxicity: Prolonged or repeated overexposure cause dermatitis and damage
to the kidney, liver, lungs and central nervous system.
Toxicity Data: Acetone: Oral rat LD50: 5,800 mg/kg
Inhalation rat LC50: 50,100 mg/m3/8 hours
Cyclohexanone: Oral rat LD50: 1,620 mg/kg
Inhalation rat LC50: 8,000 ppm/4 hours
Skin rabbit LD50: 1 mL/kg
Tetrahydrofuran: Oral rat LD50: 1,650 mg/kg
Inhalation rat LC50: 21,000 ppm/3 hours

SECTION 11 (Continued)

Sensitization: None of the components are known to cause sensitization.
Carcinogenicity: None of the components are listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA. The National Toxicology Program has reported that exposure of mice and rats to tetrahydrofuran (THF) vapor levels up to 1800 ppm 6 hr/day, 5 days/week for their lifetime caused an increased incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health is unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF. ACGIH has classified cyclohexanone (CYH) and tetrahydrofuran as "A3," Confirmed Animal Carcinogens with Unknown Relevance to Humans.
Mutagenicity: Cyclohexanone has been positive in bacterial and mammalian assays. Acetone and tetrahydrofuran are generally thought not to be mutagenic.
Reproductive Toxicity: Cyclohexanone has been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran have been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.
Medical Conditions Aggravated By Exposure: Persons with pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.

SECTION 12 ECOLOGICAL INFORMATION

This product is not expected to be toxic to aquatic organisms.
Cyclohexanone: 96 hour LC50 values for fish is over 100 mg/l.
Tetrahydrofuran: 96 hour LC50 fathead minnow: 2160 mg/L.
Acetone: 96 hour LC50 for fish is greater than 100 mg/L.
VOC Information: This product emits VOC's (volatile organic compounds) in its use. Make sure that use of this product complies with local VOC emission regulations, where they exist.
VOC Level: 600 g/l per SCAQMD Test Method 316A.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with current local, state and federal regulations.
RCRA Hazardous Waste Number: U002, U057, U213
EPA Hazardous Waste ID Number: D001, F003
EPA Hazard Waste Class: Ignitable Waste.

SECTION 14 TRANSPORT INFORMATION

DOT	Less than 1 Liter (0.3 gal)	Greater than 1 Liter (0.3 gal)
Proper Shipping Name:	Consumer Commodity	Adhesives
Hazard Class/Packing Group:	ORM-D	3, PGII
UN/NA Number:	None	UN1133
Hazard Labels:	None	Flammable Liquid
IMDG		
Proper Shipping Name:	Adhesives	Adhesives
Hazard Class/Packing Group:	3, II	3, II
UN Number:	UN1133	UN1133
Label:	None (Limited Quantities are excepted from labeling)	Class 3 (Flammable Liquid)
2004 North American Emergency Response Guidebook Number: 127 or 128		

SECTION 15 REGULATORY INFORMATION

Hazard Category for Section 311/312:	Acute Health, Chronic Health, Flammable
Section 302 Extremely Hazardous Substances (TPQ):	This product does not contain chemicals regulated under SARA Section 302.
Section 313 Toxic Chemicals:	This product contains no chemicals subject to SARA Title III Section 313 Reporting requirements.
CERCLA 103 Reportable Quantity:	Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Tetrahydrofuran (55% maximum) of 1,000 lbs, is 1,818 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
California Proposition 65:	This product contains trace amounts of chemicals known to the State of to cause cancer. Under normal Use conditions, exposure to these chemicals at levels above the State of California "No Significant Risk Level" (NSRL) are unlikely. Oatey strongly encourages the use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 to minimize exposure to these chemicals.
TSCA Inventory:	All of the components of this product are listed on the TSCA inventory.
Canadian WHIMS Classification:	Class B, Division 2; Class D, Division 2, Subdivision B. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

SECTION 16

NEPA and HMIS:
NEPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None
HMIS Hazard Signal: Health: 2* Flammability: 3 Reactivity: 1 PPE: G
Disclaimer:
The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, Oatey cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.

MSDS No: CAR010C5
 Issue Date: 25 Aug. 2005
 Page: 1 of 5

MATERIAL SAFETY DATA SHEET**SECTION 1****PRODUCT AND COMPANY IDENTIFICATION**

Trade Name: CARLON ELECTRICAL PRODUCTS STANDARD CLEAR PVC SOLVENT CEMENT
 Product Numbers: VC9961P, VC9962, VC9963, VC9964, VC9963C, VC9965C
 Product Use: Cement for PVC Plastic Pipe
 Formula: PVC Resin in Solvent Solution
 Synonyms: PVC Plastic Pipe Cement
 Firm Name & Mailing Address: CARLON ELECTRICAL PRODUCTS c/o OATEY CO. 4700 West 160th Street
 P.O. Box 35906 Cleveland, Ohio 44135, U.S.A.
<http://www.oatey.com>
 Oatey Phone Number: (216) 267-7100 or (800) 321-9532
 Emergency Phone Numbers: For Emergency First Aid call 1-303-623-5716 COLLECT. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1-703-527-3887.
 Prepared By: Corporate Director - Safety and Environmental Compliance
 Preparation Date: August 25, 2005

SECTION 2**COMPOSITION/INFORMATION ON INGREDIENTS**

INGREDIENTS:	%wt/wt:	CAS NUMBER:	ACGIH TLV TWA:	OSHA PEL TWA:	OTHER:
Tetrahydrofuran	30 - 65%	109-99-9	50 ppm(skin) 100 ppm STEL	200 ppm	25 ppm (Mfg)
Methyl Ethyl Ketone	10 - 30%	78-93-3	200 ppm 300 ppm STEL	200 ppm	None
Acetone	10 - 20%	67-64-1	500 ppm 750 ppm STEL	1000 ppm	None
PVC Resin (Non-hazardous)	10 - 20%	9002-86-2	10 mg/m3	15 mg/m3	None
Cyclohexanone	7 - 13%	108-94-1	20 ppm(skin) 50 ppm STEL	50 ppm	None
Amorphous Fumed Silica 1 (Non-hazardous)	1 - 5%	112945-52-5	10 mg/m3	None Established	None

OSHA Hazard Classification: Flammable, irritant, organ effects

SECTION 3**HAZARDS IDENTIFICATION****Emergency Overview:**

Clear liquid with an ether-like odor. Extremely flammable liquid and vapor. Vapors may cause flash fire. May cause eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects. Swallowing may cause irritation, nausea, vomiting, diarrhea and kidney or liver disorders. Aspiration hazard. May be fatal if swallowed. Symptoms may be delayed.

SECTION 4**FIRST AID MEASURES**

CALL 1-303-623-5716 COLLECT

Skin: Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with Oatey Plumber's Hand Cleaner or baby oil.

Eyes: If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

Inhalation: If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

Ingestion: **DO NOT INDUCE VOMITING.** Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

SECTION 5 FIRE FIGHTING MEASURES

Flashpoint / Method: 0 - 5 Degrees F. (-18 - -15 Degrees C / PMCC
Flammability: LEL = 1.8 % Volume, UEL = 11.8 % Volume
Extinguishing Media: Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.
Special Fire Fighting Procedure: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored
Unusual Fire and Explosion Hazards: Extremely flammable liquid. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.
Hazardous Decomposition Products: Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Remove all sources of ignition and ventilate area. Stop leak if it can be done without risk. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with an inert absorbent such as sand, earth or other non-combusting material. Put absorbent material in covered, labeled metal containers. Prevent liquid from entering watercourses, sewers and natural waterways. Report releases to authorities as required. See Section 13 for disposal information.

SECTION 7 HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.
Storage: Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.
Other: "Empty" containers retain product residue and can be hazardous. Follow all MSDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.
Respiratory Protection: For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.
Skin Protection: Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

SECTION 8 (Continued)

Eye Safety glasses with sideshields or safety goggles.
Protection:
Other: Eye wash and safety shower should be available.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 151 Degrees F / 66 Degrees C
Melting Point: Not Applicable
Vapor Pressure: 145 mmHg @ 20 Degrees C
Vapor Density: (Air = 1) 2.5
Volatile Components: 81-85%
Solubility In Water: Negligible
pH: Not Applicable
Specific Gravity: 0.94 +/- 0.01 @ 20 Degrees C
Evaporation Rate: (BUAC = 1) = 5.5 - 8.0
Appearance: Clear Liquid
Odor: Ether-Like
Will Dissolve In: Tetrahydrofuran
Material Is: Liquid

SECTION 10 STABILITY AND REACTIVITY

Stability: Stable.
Conditions To Avoid: Avoid heat, sparks, flames and other sources of ignition.
Hazardous Combustion will produce toxic and irritating vapors
Decomposition including carbon monoxide, carbon dioxide and hydrogen
Products: chloride.
Incompatibility/ Oxidizing agents, alkalis, amines, ammonia, acids, chlorine
Materials To Avoid: compounds, chlorinated inorganics (potassium, calcium and
sodium hypochlorite) and hydrogen peroxides. May attack
plastic, resins and rubber.
Hazardous Will not occur.
Polymerization:

SECTION 11 TOXICOLOGICAL INFORMATION

Inhalation: Vapors or mists may cause mucous membrane and respiratory
irritation, coughing, headache, dizziness, dullness, nausea,
shortness of breath and vomiting. High concentrations may cause
central nervous system depression, narcosis and unconsciousness.
May cause kidney, liver and lung damage.
Skin: May cause irritation with redness, itching and pain. Cyclohexanone
may be absorbed through the skin causing effects similar to those
listed under inhalation.
Eye: Vapors may cause irritation. Direct contact may cause irritation
with redness, stinging and tearing of the eyes. May cause eye
damage.
Ingestion: Swallowing may cause abdominal pain, nausea, vomiting and
diarrhea. Aspiration during swallowing or vomiting can cause
chemical pneumonia and lung damage. May cause kidney and liver
damage.
Chronic Prolonged or repeated overexposure cause dermatitis and damage
Toxicity: to the kidney, liver, lungs and central nervous system.
Toxicity Data: Acetone: Oral rat LD50: 5,800 mg/kg
Inhalation rat LC50: 50,100 mg/m3/8 hours
Cyclohexanone: Oral rat LD50: 1,620 mg/kg
Inhalation rat LC50: 8,000 ppm/4 hours
Skin rabbit LD50: 1 mL/kg
Tetrahydrofuran: Oral rat LD50: 1,650 mg/kg
Inhalation rat LC50: 21,000 ppm/3 hours
Methyl Ethyl Ketone: Oral rat LD50: 2,737mg/kg
Inhalation rat LC50: 23,500mg/m3/8 hours
Skin rabbit LD50: 6,480 mg/kg

SECTION 11 (Continued)

Sensitization: None of the components are known to cause sensitization.
Carcinogenicity: None of the components are listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA. The National Toxicology Program has reported that exposure of mice and rats to tetrahydrofuran (THF) vapor levels up to 1800 ppm 6 hr/day, 5 days/week for their lifetime caused an increased incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health is unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF. ACGIH has classified cyclohexanone (CYH) and tetrahydrofuran as "A3," Confirmed Animal Carcinogens with Unknown Relevance to Humans.
Mutagenicity: Cyclohexanone has been positive in bacterial and mammalian assays. Acetone, methyl ethyl ketone and tetrahydrofuran are generally thought not to be mutagenic.
Reproductive Toxicity: Cyclohexanone and methyl ethyl ketone have been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran have been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.
Medical Conditions Aggravated By Exposure: Persons with pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.

SECTION 12 ECOLOGICAL INFORMATION

This product is not expected to be toxic to aquatic organisms.
Cyclohexanone: 96 hour LC50 values for fish is over 100 mg/l.
Tetrahydrofuran: 96 hour LC50 fathead minnow: 2160 mg/L.
Methyl Ethyl Ketone: 96 hour LC50 for fish is greater than 100 mg/L.
Acetone: 96 hour LC50 for fish is greater than 100 mg/L.
VOC Information: This product emits VOC's (volatile organic compounds) in its use. Make sure that use of this product complies with local VOC emission regulations, where they exist.
VOC Level: 600 g/l per SCAQMD Test Method 316A.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with current local, state and federal regulations.
RCRA Hazardous Waste Number: U002, U057, U159, U213
EPA Hazardous Waste ID Number: D001, D035, F003, F005
EPA Hazard Waste Class: Ignitable Waste. Toxic Waste (Methyl Ethyl Ketone content)

SECTION 14 TRANSPORT INFORMATION

DOT Less than 1 Liter (0.3 gal) Greater than 1 Liter (0.3 gal)
Proper Shipping Name: Consumer Commodity Adhesives
Hazard Class/Packing Group: ORM-D 3, PGII
UN/NA Number: None UN1133
Hazard Labels: None Flammable Liquid
IMDG
Proper Shipping Name: Adhesives Adhesives
Hazard Class/Packing Group: 3, II 3, II
UN Number: UN1133 UN1133
Label: None (Limited Quantities are excepted from labeling) Class 3 (Flammable Liquid)
2004 North American Emergency Response Guidebook Number: 127 or 128

SECTION 15 REGULATORY INFORMATION

Hazard Category for Section 311/312: Acute Health, Chronic Health, Flammable
Section 302 Extremely Hazardous Substances (TPQ): This product does not contain chemicals regulated under SARA Section 302.
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:

Chemical	CAS #	% by wt.
Methyl Ethyl Ketone	78-93-3	10-30%

CERCLA 103 Reportable Quantity: Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Tetrahydrofuran (65% maximum) of 1,000 lbs, is 1,538 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
California Proposition 65: This product contains trace amounts of chemicals known to the State of to cause cancer. Under normal Use conditions, exposure to these chemicals at levels above the State of California "No Significant Risk Level" (NSRL) are unlikely. Oatey strongly encourages the use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 to minimize exposure to these chemicals.
TSCA Inventory: All of the components of this product are listed on the TSCA inventory.
Canadian WHIMS Classification: Class B, Division 2; Class D, Division 2, Subdivision B. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

SECTION 16

NFPA and HMIS:
NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None
HMIS Hazard Signal: Health: 2* Flammability: 3 Reactivity: 1 PPE: G
Disclaimer:
The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, Oatey cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.

MSDS No: CAR060E5
 Issue Date: 22 Sept. 2005
 Page: 1 of 5

MATERIAL SAFETY DATA SHEET**SECTION 1****PRODUCT AND COMPANY IDENTIFICATION**

Trade Name: CARLON ELECTRICAL PRODUCTS CLEAR PRIMER - NSF LISTED
 Product Numbers: VC9902, VC9903
 Product Use: Primer for Cementing Plastic Pipe
 Formula: See Section 2
 Synonyms: Cleaner
 Firm Name & Mailing Address: CARLON ELECTRICAL PRODUCTS c/o OATEY CO. 4700 West 160th Street
 P.O. Box 35906 Cleveland, Ohio 44135, U.S.A.
<http://www.oatey.com>
 Oatey Phone Number: (216) 267-7100 or (800) 321-9532
 Emergency Phone Numbers: For Emergency First Aid call 1-303-623-5716 COLLECT. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1-703-527-3887.
 Prepared By: Corporate Director - Safety and Environmental Compliance
 Preparation Date: September 22, 2005

SECTION 2**COMPOSITION/INFORMATION ON INGREDIENTS**

<u>INGREDIENTS:</u>	<u>%wt/wt:</u>	<u>CAS NUMBER:</u>	<u>ACGIH TLV TWA:</u>	<u>OSHA PEL TWA:</u>	<u>OTHER:</u>
Methyl Ethyl Ketone	25 - 80%	78-93-3	200 ppm 300 ppm STEL	200 ppm	None
Acetone	0 - 40%	67-64-1	500 ppm 750 ppm STEL	1000 ppm	None
Tetrahydrofuran	5 - 30%	109-99-9	50 ppm(skin) 100 ppm STEL	200 ppm	25 ppm (Mfg)
Cyclohexanone	10 - 20%	108-94-1	20 ppm(skin) 50 ppm STEL	50 ppm	None

OSHA Hazard Classification: Flammable, irritant, organ effects

SECTION 3**HAZARDS IDENTIFICATION****Emergency Overview:**

Clear liquid with a sharp, penetrating odor. Extremely flammable liquid and vapor. Vapors may cause flash fire. May cause eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects. Swallowing may cause irritation, nausea, vomiting, diarrhea and kidney or liver disorders. Aspiration hazard. May be fatal if swallowed. Symptoms may be delayed.

SECTION 4**FIRST AID MEASURES**

CALL 1-303-623-5716 COLLECT

Skin: Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with Oatey Plumber's Hand Cleaner or baby oil.

Eyes: If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

Inhalation: If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

Ingestion: **DO NOT INDUCE VOMITING.** Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

SECTION 5 FIRE FIGHTING MEASURES

Flashpoint / Method: 0 - 5 Degrees F. (-18 to -15 Degrees C) / PMCC
Flammability: LEL = 1.8 % Volume, UEL = 11.5 % Volume
Extinguishing Media: Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.
Special Fire Fighting Procedure: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored
Unusual Fire and Explosion Hazards: Extremely flammable liquid. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.
Hazardous Decomposition Products: Combustion will produce toxic and irritating vapors including carbon monoxide and carbon dioxide.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Remove all sources of ignition and ventilate area. Stop leak if it can be done without risk. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with an inert absorbent such as sand, earth or other non-combusting material. Put absorbent material in covered, labeled metal containers. Prevent liquid from entering watercourses, sewers and natural waterways. Report releases to authorities as required. See Section 13 for disposal information.

SECTION 7 HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.
Storage: Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.
Other: "Empty" containers retain product residue and can be hazardous. Follow all MSDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.
Respiratory Protection: For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.
Skin Protection: Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

SECTION 8 (Continued)

Eye Safety glasses with side shields or safety goggles.

Protection:

Other: Eye wash and safety shower should be available.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 151 Degrees F / 66 Degrees C
Melting Point: Not applicable
Vapor Pressure: 70 mmHg @ 20 Degrees C
Vapor Density: (Air = 1) 2.5
Volatile Components: 100%
Solubility In Water: 28 parts
pH: Not applicable
Specific Gravity: 0.84 +/- 0.02 @ 20 Degrees C
Evaporation Rate: (BUAC = 1) = 5.5 - 8.0
Appearance: Clear Liquid
Odor: Sharp, penetrating odor
Will Dissolve In: Methyl ethyl ketone
Material Is: Liquid

SECTION 10 STABILITY AND REACTIVITY

Stability: Stable.
Conditions To Avoid: Avoid heat, sparks, flames and other sources of ignition.
Hazardous Combustion will produce toxic and irritating vapors
Decomposition including carbon monoxide, carbon dioxide and hydrogen
Products: chloride.
Incompatibility/ Oxidizing agents, alkalis, amines, ammonia, acids, chlorine
Materials To Avoid: compounds, chlorinated inorganics (potassium, calcium and
sodium hypochlorite) and hydrogen peroxides. May attack
plastic, resins and rubber.
Hazardous Will not occur.
Polymerization:

SECTION 11 TOXICOLOGICAL INFORMATION

Inhalation: Vapors or mists may cause mucous membrane and respiratory
irritation, coughing, headache, dizziness, dullness, nausea,
shortness of breath and vomiting. High concentrations may cause
central nervous system depression, narcosis and unconsciousness.
May cause kidney, liver and lung damage.
Skin: May cause irritation with redness, itching and pain. Methyl
ethyl ketone and cyclohexanone may be absorbed through the skin
causing effects similar to those listed under inhalation.
Eye: Vapors may cause irritation. Direct contact may cause irritation
with redness, stinging and tearing of the eyes. May cause eye
damage.
Ingestion: Swallowing may cause abdominal pain, nausea, vomiting and
diarrhea. Aspiration during swallowing or vomiting can cause
chemical pneumonia and lung damage. May cause kidney and liver
damage.
Chronic Prolonged or repeated overexposure cause dermatitis and damage
Toxicity: to the kidney, liver, lungs and central nervous system.
Toxicity Data: Cyclohexanone: Oral rat LD50: 1,620 mg/kg
Inhalation rat LC50: 8,000 ppm/4 hours
Skin rabbit LD50: 1 mL/kg
Tetrahydrofuran: Oral rat LD50: 1,650 mg/kg
Inhalation rat LC50: 21,000 ppm/3 hours
Acetone: Oral rat LD50: 5,800 mg/kg
Inhalation rat LC50: 50,100 mg/m3/8 hours

SECTION 11 (Continued)

Methyl Ethyl Ketone: Oral rat LD50: 2,737 mg/kg
Inhalation rat LC50: 23,500 mg/m³/8 hours
Skin rabbit LD50: 6,480 mg/kg

Sensitization: None of the components are known to cause sensitization.

Carcinogenicity: None of the components are listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA. The National Toxicology Program has reported that exposure of mice and rats to tetrahydrofuran (THF) vapor levels up to 1800 ppm 6 hr/day, 5 days/week for their lifetime caused an increased incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health is unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF. ACGIH has classified cyclohexanone (CYH) and tetrahydrofuran as "A3," Confirmed Animal Carcinogens with Unknown Relevance to Humans.

Mutagenicity: Cyclohexanone has been positive in bacterial and mammalian assays. Acetone, methyl ethyl ketone and tetrahydrofuran are generally thought not to be mutagenic.

Reproductive Toxicity: Methyl ethyl ketone and cyclohexanone have been shown to cause embryofetal toxicity and birth defects in laboratory animals. Tetrahydrofuran and acetone have been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.

Medical Conditions Aggravated By Exposure: Persons with pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.

SECTION 12 **ECOLOGICAL INFORMATION**

This product is not expected to be toxic to aquatic organisms.
Acetone: 96 hour LC50 for fish is greater than 100 mg/L.
Cyclohexanone: 96 hour LC50 values for fish is over 100 mg/l.
Tetrahydrofuran: 96 hour LC50 fathead minnow: 2160 mg/L.
Methyl Ethyl Ketone: 96 hour LC50 for fish is greater than 100 mg/L.

VOC Information: This product emits VOC's (volatile organic compounds) in its use. Make sure that use of this product complies with local VOC emission regulations, where they exist.

VOC Level: 600 g/l per SCAQMD Test Method 316A.

SECTION 13 **DISPOSAL CONSIDERATIONS**

Waste Disposal: Dispose in accordance with current local, state and federal regulations.

RCRA Hazardous Waste Number: U057, U159, U213
EPA Hazardous Waste ID Number: D001, D035, F003, F005
EPA Hazard Waste Class: Ignitable Waste. Toxic Waste (Methyl Ethyl Ketone content)

SECTION 14 TRANSPORT INFORMATION

DOT Less than 1 liter (0.3 gal) Greater than 1 liter (0.3 gal)
Proper Shipping Name: Consumer Commodity Flammable Liquid NOS
Hazard Class/Packing Group: ORM-D 3, PGII
UN/NA Number: None UN1993
Hazard Labels: None Flammable Liquid (Methyl Ethyl Ketone, Cyclohexanone)

IMDG
Proper Shipping Name: Flammable Liquid, N.O.S. Limited Quantity
Hazard Class/Packing Group: 3, II
UN Number: UN1993
Label: None (Limited Quantities are excepted from labeling)

2004 North American Emergency Response Guidebook Number: 127 or 128

SECTION 15 REGULATORY INFORMATION

Hazard Category for Section 311/312: Acute Health, Chronic Health, Flammable
Section 302 Extremely Hazardous Substances (TPQ): This product does not contain chemicals regulated under SARA Section 302.
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:

Chemical	CAS #	% by wt.
Methyl Ethyl Ketone	78-93-3	25-80%

CERCLA 103 Reportable Quantity: Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Methyl Ethyl Ketone (80% maximum) of 5,000 lbs, is 6,250 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

California Proposition 65: This product does not contain any chemicals subject To California Proposition 65 regulation.

TSCA Inventory: All of the components of this product are listed on the TSCA inventory.

Canadian WHIMS Classification: Class B, Division 2; Class D, Division 2, Subdivision B; Class D, Division 2, Subdivision A. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

SECTION 16 OTHER INFORMATION

NFPA and HMIS:
NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None
HMIS Hazard Signal: Health: 2* Flammability: 3 Reactivity: 1 PPE: G

Disclaimer:

The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, Oatey cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.

IPEX

GHS SAFETY DATA SHEET

IPEX 636 CLR Low VOC Primer for PVC and CPVC Plastic Pipe

Date Revised: JAN 2012
Supersedes: OCT 2010

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: IPEX 636 CLR Low VOC Primer for PVC and CPVC Plastic Pipe
PRODUCT USE: Low VOC Primer for PVC and CPVC Plastic Pipe
SUPPLIER: IPEX Inc.
807 Pharmacy Avenue
Scarborough, Ontario M1L 3K2, CAN

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, 760.602.6703 3E Company (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity: Category 4	Skin Irritation: Category 3	Acute Toxicity: None Known	Chronic Toxicity: None Known	Flammable Liquid	Category 2
Skin Sensitization: NO	Eye: Category 2B				

GHS LABEL:   OR   **Signal Word:** Danger **WHMIS CLASSIFICATION:** CLASS B, DIVISION 2

Hazard Statements	Precautionary 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	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking P281: 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	45 - 59
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	18 - 29
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 20
Cyclohexanone	108-94-1	203-631-1	05-2116297716-25-0000	5 - 15

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 and smoke

Health	2	NFPA	0-Minimal
Flammability	3		1-Slight
Reactivity	0		2-Moderate
PPE	B		3-Serious
			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 (111°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	
	Acetone	500 ppm	750 ppm	1000 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, thin liquid	Odor Threshold:	0.88 ppm (Cyclohexanone)
Odor:	Ethereal	Boiling Range:	56 °C (133 °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:	56 °C (133 °F) Based on first boiling component: Acetone	Flammability Limits:	LEL: 1.1 % based on Cyclohexanone
Flash Point:	-20 °C (-4 °F) TCC based on Acetone		UEL: 12.6% based on Acetone
Specific Gravity:	0.858 @23 °C (73 °F)	Vapor Pressure:	190 mm Hg @ 20 °C (68 °F) Acetone
Solubility:	Solvent portion soluble in water. Resin portion separates out.	Vapor Density:	>2.0 (Air = 1)
Partition Coefficient n-octanol/water:	Not Available	Other Data: Viscosity:	Water-thin
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: ≤ 550 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 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:	LD ₅₀ LC ₅₀
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)
Acetone	Oral: 5800 mg/kg (rat) Inhalation 50,100 mg/m ³ (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 ≤ 550 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:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1993
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping	
DOT Limited Quantity:	Up to 1L 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:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
UN NUMBER/PACKING GROUP:	UN 1993, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information:	Highly Flammable, Irritant	Ingredient Listings:	USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCL, 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. S18: Keep away from sources of ignition - No smoking. S25: Avoid contact with eyes.	S28: 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:	Primer for PVC and CPVC 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.

IPEX

GHS SAFETY DATA SHEET

IPEX 4 CLR Low VOC General Purpose Cement for PVC Plastic Pipe

Date Revised: JAN 2012
Supersedes: JAN 2010

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: IPEX 4 CLR Low VOC General Purpose Cement for PVC Plastic Pipe
PRODUCT USE: Low VOC Solvent Cement for PVC Plastic Pipe
SUPPLIER: IPEX Inc.
807 Pharmacy Avenue
Scarborough, Ontario M1L 3K2, CAN
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 Skin Irritation: Category 3 Skin Sensitization: NO Eye: Category 2B	Acute Toxicity: None Known Chronic Toxicity: None Known	Flammable Liquid Category 2

GHS LABEL:   OR   **Signal Word:** Danger **WHMIS CLASSIFICATION:** CLASS B, DIVISION 2

<p>Hazard Statements</p> <p>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</p>	<p>Precautionary Statements</p> <p>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</p>
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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	25 - 50
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	5 - 36
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	15 - 30

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.	HMIS	NFPA	0-Minimal
Unsuitable Extinguishing Media:	Water spray or stream.	Health	2	1-Slight
Exposure Hazards:	Inhalation and dermal contact	Flammability	3	2-Moderate
Combustion Products:	Oxides of carbon, hydrogen chloride and smoke	Reactivity	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 (111°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.

IPEX 4 CLR Low VOC General Purpose Cement for PVC Plastic Pipe

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, medium 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 UEL: 11.8% based on THF
Flash Point:	-20 °C (-4 °F) TCC based on THF	Vapor Pressure:	129 mm Hg @ 20 °C (68 °F) based on THF
Specific Gravity:	0.9611 @23 °C (73 °F)	Vapor Density:	>2 (Air = 1)
Solubility:	Solvent portion soluble in water. Resin portion separates out.	Other Data: Viscosity:	Medium bodied
Partition Coefficient n-octanol/water:	Not Available		
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:	LD ₅₀	LC ₅₀
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.

IPEX **GHS SAFETY DATA SHEET**
XIRTEC 7 CLR Low VOC Primer for PVC and CPVC Plastic Pipe
 Date Revised: JAN 2012
 Supersedes: OCT 2010

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: XIRTEC 7 CLR Low VOC Primer for PVC and CPVC Plastic Pipe
PRODUCT USE: Low VOC Primer for PVC and CPVC Plastic Pipe
SUPPLIER: IPEX Inc. 807 Pharmacy Avenue Scarborough, Ontario M1L 3K2, CAN
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, 760.602.6703 3E Company (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:
 Health: Acute Toxicity: Category 4, Skin Irritation: Category 3, Skin Sensitization: NO, Eye: Category 2B
 Environmental: Acute Toxicity: None Known, Chronic Toxicity: None Known
 Physical: Flammable Liquid Category 2
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	45 - 59
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	19 - 29
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 20
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	5 - 15

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 and smoke
Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

	Health	Flammability	Reactivity	PPE	HMIS	NFPA	0-Minimal
	2	3	0	B	2	3	1-Slight
						0	2-Moderate
						3	3-Serious
						4	4-Severe

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 (111°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	
Acetone	500 ppm	750 ppm	1000 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, thin liquid	Odor Threshold:	0.88 ppm (Cyclohexanone)
Odor:	Ethereal	Boiling Range:	56°C (133°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:	56°C (133°F) Based on first boiling component: Acetone	Flammability Limits:	LEL: 1.1% based on Cyclohexanone UEL: 12.8% based on Acetone
Flash Point:	-20°C (-4°F) TCC based on Acetone	Vapor Pressure:	190 mm Hg @ 20°C (68°F) Acetone
Specific Gravity:	0.858 @23°C (73°F)	Vapor Density:	>2.0 (Air = 1)
Solubility:	Solvent portion soluble in water. Resin portion separates out.	Other Data: Viscosity:	Water-thin
Partition Coefficient n-octanol/water:	Not Available		
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: ≤ 550 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 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:	LD ₅₀	LC ₅₀
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)
Acetone	Oral: 5900 mg/kg (rat)	Inhalation 50,100 mg/m ³ (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 ≤ 550 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:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1993
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping

DOT Limited Quantity: Up to 1L 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:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
UN NUMBER/PACKING GROUP:	UN 1993, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information:	Highly Flammable, Irritant F, Xi	Ingredient Listings:	USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)
Risk Phrases:	R11: Highly flammable. R20: Harmful by inhalation. R36/37: Irritating to eyes and respiratory system.	Safety Phrases:	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.
			R66: Repeated exposure may cause skin dryness or cracking R67: Vapors may cause drowsiness and dizziness
	S9: Keep container in a well-ventilated place. S16: Keep away from sources of ignition - No smoking. S25: Avoid contact with eyes.		

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:	Primer for PVC and CPVC 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.

IPEX **GHS SAFETY DATA SHEET**
XIRTEC 7 PUR Low VOC Primer for PVC and CPVC Plastic Pipe
 Date Revised: JAN 2012
 Supersedes: OCT 2010





SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: XIRTEC 7 PUR Low VOC Primer for PVC and CPVC Plastic Pipe
PRODUCT USE: Low VOC Primer for PVC and CPVC Plastic Pipe
SUPPLIER: IPEX Inc. 807 Pharmacy Avenue Scarborough, Ontario M1L 3K2, CAN
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	Precautionary 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	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	45 - 59
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	19 - 29
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 20
Cyclohexanone	106-94-1	203-631-1	05-2116297718-25-0000	5 - 15

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 and smoke

	HMIS	NFPA	
Health	2	2	1-Slight
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 (111°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	
	Acetone	500 ppm	750 ppm	1000 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:	Purple, thin liquid	Odor Threshold:	0.88 ppm (Cyclohexanone)
Odor:	Ethereal	Boiling Range:	56°C (133°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
Bolling Point:	56°C (133°F) Based on first boiling component: Acetone	Flammability Limits:	LEL: 1.1% based on Cyclohexanone UEL: 12.8% based on Acetone
Flash Point:	-20°C (-4°F) TCC based on Acetone	Vapor Pressure:	190 mm Hg @ 20°C (68°F) Acetone
Specific Gravity:	0.858 @23°C (73°F)	Vapor Density:	>2.0 (Air = 1)
Solubility:	Solvent portion soluble in water. Resin portion separates out.	Other Data: Viscosity:	Water-thin
Partition Coefficient n-octanol/water:	Not Available		
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: ≤ 550 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 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:	LD ₅₀	LC ₅₀
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)
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m ³ (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 ≤ 550 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:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1993
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping	
DOT Limited Quantity:	Up to 1L 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:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
UN NUMBER/PACKING GROUP:	UN 1993, 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:	Primer for PVC and CPVC 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.



Date:	6/1/2011	MSDS No.:	US-M291
Trade Name:	Excalibur 7018MR		
Sizes:	All		
Supersedes:	6/20/2008		

MATERIAL SAFETY DATA SHEET

For Welding Consumables and Related Products

Conforms to Hazard Communication Standard 29CFR 1910.1200 Rev. October 1988

SECTION I - IDENTIFICATION	
Manufacturer/Supplier: The Lincoln Electric Company 22801 St. Clair Avenue Cleveland, OH 44117-1199 (216) 481-8100	Product Type: Covered Electrode
	Classification: AWS E7018 H4R

SECTION II - HAZARDOUS MATERIAL (1)

IMPORTANT!

This section covers the materials from which this product is manufactured. The fumes and gases produced during welding with the normal use of this product are covered by Section V; see it for industrial hygiene information.

CAS Number shown is representative for the ingredients listed. All ingredients listed may not be present in all sizes.

(1) The term "hazardous" in "Hazardous Materials" should be interpreted as a term required and defined in the Hazards Communication Standard and does not necessarily imply the existence of any hazard. All materials are listed on the TSCA inventory.

Ingredients:	CAS No.	Wt. %	TLV mg/m ³	PEL mg/m ³
Iron	7439-89-6	15	10*	15*
Limestone and/or calcium carbonate	1317-65-3	10	10*	15
Titanium dioxides	13463-67-7	< 5	10	15
Fluorides (as F)	7789-75-5	< 5	2.5	2.5
Silicates and other binders	1344-09-8	< 5	10*	15*
Manganese and/or manganese alloys and compounds (as Mn)*****	7439-96-5	< 5	0.2	5 (c)
Mineral silicates	1332-58-7	1	5**	5**
Silicon and/or silicon alloys and compounds (as Si)	7440-21-3	1	10*	15*
Cellulose and other carbohydrates	65996-61-4	0.5	10*	15*
Quartz	14808-60-7	< 0.5	#0.025**	#0.1**
Lithium compounds (as Li)	554-13-2	< 0.5	10*	15*
Carbon steel core wire	7439-89-6	60	10*	15*

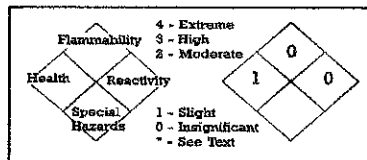
Supplemental Information:	
(*) Not listed. The OSHA PEL for nuisance particles is 15 milligrams per cubic meter. The ACGIH guideline for total particulate is 10 milligrams per cubic meter. PEL value for iron oxide is 10 milligrams per cubic meter. TLV value for iron oxides is 5 milligrams per cubic meter.	(c) Value is for manganese fume. Present PEL is 5 milligrams per cubic meter (ceiling value). Values proposed by OSHA in 1989 were 1.0 milligrams per cubic meter TWA and 3.0 milligrams per cubic meter STEL (Short Term Exposure Limit).
(**) As respirable dust.	(#) Crystalline silica (quartz) is on the IARC (International Agency for Research on Cancer) and NTP (National Toxicology Program) lists as posing a carcinogenic risk to humans.
(*****) Subject to the reporting requirements of Sections 311, 312, and 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40CFR 370 and 372.	

SECTION III - HAZARD DATA

Non Flammable; Welding arc and sparks can ignite combustibles and flammable products. See Z49.1 referenced in Section VI. Product is inert, no special handling or spill procedures required. Not regulated by DOT.

Product: Excalibur 7018MR

Date: 6/1/2011



SECTION IV - HEALTH HAZARD DATA

Threshold Limit Value: The ACGIH recommended general limit for Welding Fume NOS - (Not Otherwise Specified) is 5 mg/m³. ACGIH-1999 preface states that the TLV-TWA should be used as guides in the control of health hazards and should not be used as fine lines between safe and dangerous concentrations. See Section V for specific fume constituents which may modify this TLV. Threshold Limit Values are figures published by the American Conference of Government Industrial Hygienists. Units are milligrams per cubic meter of air.

Effects of Overexposure: Electric arc welding may create one or more of the following health hazards:

Fumes and Gases can be dangerous to your health. Common entry is by inhalation. Other possible routes are skin contact and ingestion.

Short-term (acute) overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes. May aggravate pre-existing respiratory problems (e.g. asthma, emphysema).

Long-term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung) and may affect pulmonary function. Manganese overexposure can affect the central nervous system, resulting in impaired speech and movement. Bronchitis and some lung fibrosis have been reported. Repeated exposure to fluorides may cause excessive calcification of the bone and calcification of ligaments of the ribs, pelvis and spinal column. May cause skin rash. Titanium dioxide is listed by the IARC (International Agency for Research on Cancer) as a Group 2B carcinogen (possibly carcinogenic to humans based on animal studies). Respiratory exposure to the crystalline silica present in this welding electrode is not anticipated during normal use. Respiratory overexposure to airborne crystalline silica is known to cause silicosis, a form of disabling pulmonary fibrosis which can be progressive and may lead to death. Crystalline silica is on the IARC (International Agency for Research on Cancer) and NTP (National Toxicology Program) lists as posing a cancer risk to humans. **WARNING:** This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.)

Arc Rays can injure eyes and burn skin. *Skin cancer has been reported.*

Electric Shock can kill. If welding must be performed in damp locations or with wet clothing, on metal structures or when in cramped positions such as sitting, kneeling or lying, or if there is a high risk of unavoidable or accidental contact with workpiece, use the following equipment: Semiautomatic DC Welder, DC Manual (Stick) Welder, or AC Welder with Reduced Voltage Control.

Emergency and First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by the American Red Cross.

IF BREATHING IS DIFFICULT give oxygen. IF NOT BREATHING employ CPR (Cardiopulmonary Resuscitation) techniques.

IN CASE OF ELECTRICAL SHOCK, turn off power and follow recommended treatment. In all cases call a physician.

SECTION V - REACTIVITY DATA

Hazardous Decomposition Products: Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and electrodes used.

Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), the number of welders and the volume of the worker area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities.)

When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section II. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section II, plus those from the base metal and coating, etc., as noted above.

Reasonably expected fume constituents of this product would include: Primarily iron oxide and fluorides; secondarily complex oxides of manganese, potassium, silicon and sodium.

Maximum fume exposure guideline for this product (based on manganese content) is 4.0 milligrams per cubic meter.

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc.

Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits. See ANSI/AWS F1.1, F1.2, F1.3 and F1.5, available from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

SECTION VI AND VII

CONTROL MEASURES AND PRECAUTIONS FOR SAFE HANDLING AND USE

Read and understand the manufacturer's instruction and the precautionary label on the product. Request Lincoln Safety Publication E205. See American National Standard Z49.1, "Safety In Welding, Cutting and Allied Processes" published by the American Welding Society, 550 N.W. LeJeune Road, Miami, FL, 33126 (both available for free download at <http://www.lincolnelectric.com/community/safety/>) and OSHA Publication 2206 (29CFR 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 for more details on many of the following:

Ventilation: Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases from the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes. *Keep exposure as low as possible.*

Respiratory Protection: Use respirable fume respirator or air supplied respirator when welding in confined space or general work area when local exhaust or ventilation does not keep exposure below TLV.

Eye Protection: Wear helmet or use face shield with filter lens shade number 12 or darker. Shield others by providing screens and flash goggles.

Protective Clothing: Wear hand, head, and body protection which help to prevent injury from radiation, sparks and electrical shock. See Z49.1.

At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to permit electrically live parts or electrodes to contact skin or clothing or gloves if they are wet. Insulate from work and ground.

Disposal Information: Discard any product, residue, disposable container, or liner as ordinary waste in an environmentally acceptable manner according to Federal, State and Local Regulations unless otherwise noted. No applicable ecological information available.



Date:	12/3/2009	MSDS No.:	CAN-M275
Trade Name:	Jetweld LH-70		
Sizes:	All		
Supersedes:	1/22/2007		

MATERIAL SAFETY DATA SHEET

For Welding Consumables and Related Products

Conforms to Workplace Hazardous Materials Information System (WHMIS) Rev. November, 1988

Section I & II - Preparation and Product Information

The Lincoln Electric Company of Canada LP
179 Wicksteed Avenue
Toronto, Ontario M4G 2B9 CANADA
Phone: (416) 421-2600

Product Type:	Covered Electrode
Representative Classifications:	AWS E7018-1H4R, CSA E4918-1

Prepared by The Lincoln Electric Company, Cleveland, Ohio, USA
(216) 481-8100, on the date shown above.

Section III - Hazardous Ingredients (1)

IMPORTANT!

This section covers the materials from which this product is manufactured. The fumes and gases produced during welding with the normal use of this product are covered by Section VII; see it for industrial hygiene information.

CAS Number shown is representative for the ingredients listed. All ingredients listed may not be present in all sizes.

(1) The term "hazardous" in "Hazardous Ingredients" should be interpreted as a term required and defined in the Hazardous Products Act and does not necessarily imply the existence of any hazard.

Ingredients:	CAS No.	Wt. %	TLV mg/m ³	LD ₅₀ (Route/Species)	LC ₅₀ mg/m ³ (Route/Species)
Iron	7439-89-6	10-30	10*	Not Available	Not Available
Limestone and/or calcium carbonate	1317-65-3	5-10	10*	Not Available	Not Available
Fluorides (as F)	7789-75-5	5-10	2.5	4250 mg/kg (oral/rat)	Not Available
Silicates and other binders	1344-09-8	1-5	10*	1153 mg/kg (oral/rat)	Not Available
Mineral silicates	1332-58-7	1-5	5**	590 g/kg LDLo (oral/rat) reproductive 9 g/kg (oral/rat)	Not Available
Manganese and/or manganese alloys and compounds (as Mn)	7439-96-5	1-5	0.2	200 mg/kg LDLo (intra-tracheal/rat)	2.3 LCLo (inhalation/human)
Quartz	14808-60-7	0.1-1	#0.05**	Not Available	300 LCLo (inhalation/human)
Silicon and/or silicon alloys and compounds (as Si)	7440-21-3	0.1-1	10*	Not Available	Not Available
Iron oxides	65996-74-9	0.1-1	5	Not Available	Not Available
Zinc and/or zinc oxides	1314-13-2	0.1-1	5(d)	7950 mg/kg (oral/mouse)	600 LCLo (inhalation/human)
Vanadium alloys (as V)	7440-62-2	0.1-1	.05(@)	10 mg/kg LDLo (oral/rat)	346 mg LCLo (inhalation/human)
Lithium compounds (as Li)	554-13-2	0.1-1	10*	4111 mg/kg LDLo (oral/human)	Not Available
Carbon steel core wire	7439-89-6	60-100	10*	Not Available	Not Available

Notes:

(LDLo, LCLo) Lowest published toxic concentration.

(*) Not listed. The ACGIH guideline for total particulate is 10 milligrams per cubic meter. TLV value for iron oxide is 5 milligrams per cubic meter.

(#) Crystalline silica (quartz) is on the IARC (International Agency for Research on Cancer) and NTP (National Toxicology Program) lists as posing a carcinogenic risk to humans.

(**) As respirable dust.

(@) As V205 fume or dust.

(d) Values are for zinc oxide fume. The ACGIH TLV has a STEL (Short Term Exposure Limit) of 10 milligrams per cubic meter.

Section IV - Physical Data

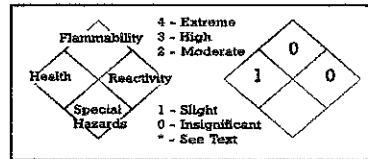
Physical data such as odor, vapor pressure, density, evaporation rate and freezing or boiling points are not listed as they are not applicable to this product and its use.

Section V - Hazard Data

Non Flammable; Welding arc and sparks can ignite combustibles and flammable products. See CSA W117.2 Section 9.7 as referenced in Section VIII. Product is inert, no special handling or spill procedures required.

Product: Jetweld LH-70

Date: 12/3/2009



Section VI - Health Hazard Data and Toxicological Properties

Acute Lethality Values: LC_{50} means the concentration of a substance in air that when administered by means of inhalation over a specified length of time in an animal assay, is expected to cause the death of 50% of a defined animal population.

LD_{50} means the single dose of a substance that, when administered by a defined route in an animal assay, is expected to cause the death of 50% of a defined animal population.

Threshold Limit Value: The ACGIH recommended general limit for Welding Fume NOS - (Not Otherwise Specified) is 5 mg/m^3 . The TLV-TWA is the time-weighted average concentration for a normal 8-hour workday and a 40 hour workweek, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect. See Section VII for specific fume constituents which may modify this TLV. Threshold Limit Values are figures published by the American Conference of Government Industrial Hygienists.

Effects of Overexposure: Electric arc welding may create one or more of the following health hazards:

Fumes and Gases can be dangerous to your health. Common entry is by inhalation. Other possible routes are skin contact and ingestion.

Short-term (acute) overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes. May aggravate pre-existing respiratory problems (e.g. asthma, emphysema). Exposure to extremely high levels of fluorides can cause abdominal pain, diarrhea, muscular weakness, and convulsions. In extreme cases it can cause loss of consciousness and death.

Long-term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung) and may affect pulmonary function. Manganese overexposure can affect the central nervous system, resulting in impaired speech and movement. Bronchitis and some lung fibrosis have been reported. Repeated exposure to fluorides may cause excessive calcification of the bone and calcification of ligaments of the ribs, pelvis and spinal column. May cause skin rash. Respiratory exposure to the crystalline silica present in this welding electrode is not anticipated during normal use. Respiratory overexposure to airborne crystalline silica is known to cause silicosis, a form of disabling pulmonary fibrosis which can be progressive and may lead to death. Crystalline silica is on the IARC (International Agency for Research on Cancer) and NTP (National Toxicology Program) lists as posing a cancer risk to humans.

Arc Rays can injure eyes and burn skin. *Skin cancer has been reported.*

Electric Shock can kill. If welding must be performed in damp locations or with wet clothing, on metal structures or when in cramped positions such as sitting, kneeling or lying, or if there is a high risk of unavoidable or accidental contact with workpiece, use the following equipment: Semiautomatic DC Welder, DC Manual (Stick) Welder, or AC Welder with Reduced Voltage Control.

Section VII - Reactivity Data

Hazardous Decomposition Products: Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and electrodes used.

Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), the number of welders and the volume of the worker area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities.)

When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section III. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section III, plus those from the base metal and coating, etc., as noted above.

Reasonably expected fume constituents of this product would include: Primarily iron oxide and fluorides; secondarily complex oxides of manganese, potassium, silicon, sodium and zinc.

Maximum fume exposure guideline for this product (based on manganese content) is 4.0 milligrams per cubic meter.

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc.

Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits. See ANSI/AWS F1.1, F1.2, F1.3 and F1.5, available from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

Section VIII - Preventive Measures and Precautions for Safe Handling and Use

Read and understand the manufacturer's instruction and the precautionary label on the product. Request Lincoln Safety Publication E205. See Canadian Standards Association Standard CSA-W117.2 "Safety in Welding, Cutting, and Allied Processes" published by the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W1R3 for more details on many of the following:

Ventilation: Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases from the worker's breathing zone and the general area.

Train the welder to keep his head out of the fumes. *Keep exposure as low as possible.*

Respiratory Protection: Use respirable fume respirator or air supplied respirator when welding in confined space or general work area when local exhaust or ventilation does not keep exposure below TLV.

Eye Protection: Wear helmet or use face shield with filter lens shade number 12 or darker. Shield others by providing screens and flash goggles.

Protective Clothing: Wear hand, head, and body protection which help to prevent injury from radiation, sparks and electrical shock. See W117.2.

At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to permit electrically live parts or electrodes to contact skin or clothing or gloves if they are wet. Insulate from work and ground.

Disposal Information: Discard any product, residue, disposable container, or liner as ordinary waste in an environmentally acceptable manner according to Federal, State and Local regulations unless otherwise noted. No applicable ecological information available.

Section IX - Emergency and First Aid Procedures

Call for medical aid. Employ first aid techniques recommended by the Canadian Red Cross. IF BREATHING IS DIFFICULT give oxygen. IF NOT BREATHING employ CPR (Cardiopulmonary Resuscitation) techniques. IN CASE OF ELECTRICAL SHOCK, turn off power and follow recommended treatment. In all cases call a physician.