

CORRADO

SAFETY DATA SHEETS

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GHS Labels



Oxidizers - Can burn without air, or can intensify fire in combustible materials.



Explosives - May explode if exposed to fire, heat, shock, friction.



Corrosives - May cause skin burns and permanent eye damage.



Gases Under Pressure - Gas released may be very cold. Gas container may explode if heated.



Flammable if exposed to ignition sources, sparks, heat. Some substances may give off flammable gases.



Toxic to aquatic organisms and may cause long lasting effects in the environment.



Toxic material which may cause life threatening effects even in small amounts and with short exposure.



May cause serious and prolonged health effects on short or long term exposure.



Irritant - May cause irritation (redness, rash) or less serious toxicity



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1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	LOCTITE® All Purpose Spray	IDH number:	234933
	Adhesive		
Product type:	Adhesive	Item number:	30544
Restriction of Use:	None identified	Region:	United States
Company address:	Contact information:		
Henkel Corporation	Telephone: (860) 571-5100		
One Henkel Way	MEDICAL EMERGENCY Phone: Poison Control Center		
Rocky Hill, Connecticut 06067	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

DANGER: CONTENTS UNDER PRESSURE.
 FLAMMABLE AEROSOL.
 MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.
 CAUSES SKIN IRRITATION.
 CAUSES SERIOUS EYE IRRITATION.
 MAY CAUSE DROWSINESS OR DIZZINESS.

HAZARD CLASS	HAZARD CATEGORY
FLAMMABLE AEROSOL	2
SKIN IRRITATION	2
EYE IRRITATION	2A
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3
ASPIRATION HAZARD	1

PICTOGRAM(S)



Precautionary Statements

Prevention:

Keep away from heat, sparks, open flames, hot surfaces - no smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Avoid breathing mist or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye and face protection. Wear protective gloves.

Response:

IF SWALLOWED: Immediately call a physician or poison control center. IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Call a poison control center or physician if you feel unwell. Do NOT induce vomiting. If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

Storage:

Disposal:

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
n-Heptane	142-82-5	30 - 60
Butane	106-97-8	10 - 30
Acetone	67-64-1	10 - 30
Propane	74-98-6	5 - 10

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Skin contact:	Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion:	Rinse mouth, do not induce vomiting, consult a doctor. Never give anything by mouth to an unconscious person. Get medical attention.
Symptoms:	See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. Water spray may be ineffective. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.
Unusual fire or explosion hazards:	Isolate from heat, electrical equipment, sparks, and open flame. Closed containers may explode when exposed to extreme heat. Contents under pressure. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition, and flash back. Exposure to temperatures above 49°C (120°F) may cause container to burst. Do not puncture or incinerate pressurized containers.

Hazardous combustion products:

Oxides of carbon.

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:

Remove all sources of ignition. Ensure adequate ventilation. Keep unnecessary personnel away. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling:

During use and until all vapors are gone: Keep area ventilated - do not smoke; extinguish all flames, pilot lights, and heaters; turn off stoves, electrical tools and appliances, and any other sources of ignition. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Do not puncture or incinerate pressurized containers. Refer to Section 8.

Storage:

Contents under pressure. Do not puncture, incinerate, or expose to temperatures above 48.9 °C (120 °F). Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Store away from ignition sources. 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 Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
n-Heptane	400 ppm TWA 500 ppm STEL	500 ppm (2,000 mg/m3) PEL	None	None
Butane	1,000 ppm STEL	None	None	None
Acetone	750 ppm STEL 500 ppm TWA	1,000 ppm (2,400 mg/m3) PEL	None	None
Propane	Included in the regulation but with no data values. See regulation for further details	1,000 ppm (1,800 mg/m3) PEL	None	None

Engineering controls:

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection:

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH.

Eye/face protection:

Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

Skin protection:

Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid, Aerosol
Color:	Milky, White
Odor:	Solvent
Odor threshold:	Not available.
pH:	Not available.
Vapor pressure:	Not available.
Boiling point/range:	-18 - 100 °C (0.4 - 212°F)
Melting point/ range:	Not available.
Specific gravity:	0.65
Vapor density:	Heavier than air.
Flash point:	Extremely Flammable.
Flashback:	This product exhibits flashback when tested for flame extension.
Flame projection:	45.72 cm (18inch)
Flammable/Explosive limits - lower:	1.1 %
Flammable/Explosive limits - upper:	12.8 %
Autoignition temperature:	Not available.
Evaporation rate:	Faster than ether.
Solubility in water:	Not available.
Partition coefficient (n-octanol/water):	Not available.
VOC content:	64.88 %; 421 g/l
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and use.
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Oxides of carbon.
Incompatible materials:	None known
Reactivity:	Not available.
Conditions to avoid:	Do not puncture, incinerate, or expose to temperatures above 48.9 °C (120 °F). Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure:	Skin, Inhalation, Eyes
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Potential Health Effects/Symptoms

Inhalation:	May cause respiratory tract irritation. Excessive inhalation of this material causes headache, dizziness, nausea and incoordination. Overexposure may cause nervous system depression. May be harmful or fatal if inhaled.
Skin contact:	Causes skin irritation. Itching. Redness. Burning sensation.
Eye contact:	Causes serious eye irritation. Direct spray or vapors will irritate and may harm eyes.
Ingestion:	Not expected under normal conditions of use. Do not taste or swallow. May be harmful or fatal if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
n-Heptane	Inhalation LC50 (RAT, 4 h) = 103 mg/l	Central nervous system, Irritant
Butane	Inhalation LC50 (RAT, 4 h) = 658 mg/l	Cardiac, Central nervous system, Irritant
Acetone	Oral LD50 (RABBIT) = 5,340 mg/kg Oral LD50 (RAT) = 5,800 mg/kg Oral LD50 (RAT) = 9,800 mg/kg Dermal LD50 (RABBIT) = 20,000 mg/kg Inhalation LC50 (RAT, 8 h) = 50.1 mg/l Inhalation LC50 (RAT, 4 h) = 76 mg/l	Blood, Central nervous system, Irritant, Reproductive
Propane	Inhalation LC50 (RAT, 15 min) = > 1,442.847 mg/l Inhalation LC50 (RAT, 15 min) = > 1,464 mg/l	Cardiac, Central nervous system, Irritant

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
n-Heptane	No	No	No
Butane	No	No	No
Acetone	No	No	No
Propane	No	No	No

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: D001: Ignitable.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

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

Proper shipping name: Aerosols, flammable
Hazard class or division: 2.1
Identification number: UN 1950
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Aerosols, flammable
Hazard class or division: 2.1
Identification number: UN 1950
Packing group: None
Exceptions: May Qualify as Consumer Commodity, (Not more than 500 ml), ID8000

Water Transportation (IMO/IMDG)

Proper shipping name:	AEROSOLS
Hazard class or division:	2.1
Identification number:	UN 1950
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 minimis
CERCLA/SARA Section 302 EHS:	None above reporting de minimis
CERCLA/SARA Section 311/312:	Fire, Sudden Release, Immediate Health, Delayed Health
CERCLA/SARA Section 313:	None above reporting de minimis
CERCLA Reportable quantity:	n-Heptane (CAS# 142-82-5) 100 lbs. (45.4 kg) Butane (CAS# 106-97-8) 100 lbs. (45.4 kg) Acetone (CAS# 67-64-1) 5,000 lbs. (2,270 kg) Propane (CAS# 74-98-6) 100 lbs. (45.4 kg)
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/NDL Status:	All components are listed on or are exempt from listing on the Canadian Domestic Substances List.
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16. OTHER INFORMATION

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

Prepared by: Catherine Bimler, Regulatory Affairs Specialist

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SAFETY DATA SHEET

1. Identification

Product identifier NAPA® Non-Chlorinated Brakleen® Brake Parts Cleaner

Other means of identification

Product code 091847

Recommended use Brake parts cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)

703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Reproductive toxicity (fertility)	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
OSHA defined hazards	Not classified.	

Label elements



Signal word

Danger

Hazard statement

Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Suspected of damaging fertility. May cause damage to organs (central nervous system, kidneys, lungs, skin) through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary statement**Prevention**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not apply while equipment is energized. Pressurized container: Do not pierce or burn, even after use. Extinguish all flames, pilot lights and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Do not breathe gas. Do not breathe mist or vapor. Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.

Response

If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If exposed or concerned: Get medical attention. Collect spillage.

Storage

Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.

Disposal

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

Hazard(s) not otherwise classified (HNOC)

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
3-Methylhexane		589-34-4	20 - 30
n-Heptane		142-82-5	20 - 30
Methylcyclohexane		108-87-2	10 - 20
Naphtha (petroleum), hydrotreated light		64742-49-0	10 - 20
Cyclohexane		110-82-7	5 - 10
Isopropyl alcohol		67-63-0	5 - 10
Carbon dioxide		124-38-9	3 - 5
n-Hexane		110-54-3	< 1
n-Octane		111-65-9	< 0.2

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures**Inhalation**

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Provide oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.

Most important symptoms/effects, acute and delayed

May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes and mucous membranes. Aspiration may cause pulmonary edema and pneumonitis. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information

IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO ₂). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may explode when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Remove all possible sources of ignition in the surrounding area. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Do not breathe the mist or vapor. Do not breathe the gas. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. 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. Do not breathe mist or vapor. Do not breathe gas. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. For product usage instructions, please see the product label.
Conditions for safe storage, including any incompatibilities	Level 3 Aerosol. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in a well-ventilated place. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3
Cyclohexane (CAS 110-82-7)	PEL	5000 ppm 1050 mg/m3
Isopropyl alcohol (CAS 67-63-0)	PEL	300 ppm 980 mg/m3
Methylcyclohexane (CAS 108-87-2)	PEL	400 ppm 2000 mg/m3
n-Heptane (CAS 142-82-5)	PEL	500 ppm 2000 mg/m3
n-Hexane (CAS 110-54-3)	PEL	500 ppm 1800 mg/m3
n-Octane (CAS 111-65-9)	PEL	500 ppm 2350 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
3-Methylhexane (CAS 589-34-4)	STEL	500 ppm
	TWA	400 ppm
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
Methylcyclohexane (CAS 108-87-2)	STEL	500 ppm
	TWA	400 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
n-Octane (CAS 111-65-9)	TWA	300 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
	TWA	30000 ppm 9000 mg/m3 5000 ppm
Cyclohexane (CAS 110-82-7)	TWA	1050 mg/m3 300 ppm
Isopropyl alcohol (CAS 67-63-0)	STEL	1225 mg/m3
	TWA	500 ppm 980 mg/m3 400 ppm
Methylcyclohexane (CAS 108-87-2)	TWA	1600 mg/m3 400 ppm

NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
n-Heptane (CAS 142-82-5)	Ceiling	1800 mg/m3 440 ppm
	TWA	350 mg/m3 85 ppm
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3 50 ppm
	Ceiling	1800 mg/m3 385 ppm
n-Octane (CAS 111-65-9)	TWA	350 mg/m3 75 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Isopropyl alcohol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedio n, without hydrolysis	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

n-Hexane (CAS 110-54-3) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

n-Hexane (CAS 110-54-3) Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile. Polyvinyl chloride (PVC).

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.
Form Aerosol.
Color Clear. Colorless.

Odor Pleasant.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -195.9 °F (-126.6 °C) estimated

Initial boiling point and boiling range 179.6 °F (82 °C) estimated

Flash point	0 °F (-17.8 °C) Tag Closed Cup
Evaporation rate	Fast.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.1 % estimated
Flammability limit - upper (%)	12 % estimated
Vapor pressure	2630.9 hPa estimated
Vapor density	> 1 (air = 1)
Relative density	0.73 estimated
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	539.6 °F (282 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	95.5 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Strong reducing agents. Isocyanates. Chlorine. Alkalis.
Hazardous decomposition products	Carbon oxides. Hydrocarbon fumes and smoke.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Inhalation	Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation.
Eye contact	May cause slight eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause pulmonary edema and pneumonitis. Irritation of eyes and mucous membranes. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways. Narcotic effects.
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Product	Species	Test Results
NAPA® Non-Chlorinated Brakleen® Brake Parts Cleaner		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2290.3545 mg/kg estimated
<i>Inhalation</i>		
LC50	Rat	59.6922 mg/l, 4 hours estimated
<i>Oral</i>		
LD50	Rat	5202.9453 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
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Serious eye damage/eye irritation	May cause slight eye irritation.
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	Suspected of damaging fertility.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	May cause damage to organs (central nervous system, kidneys, lungs, skin) through prolonged or repeated exposure.
Aspiration hazard	May be fatal if swallowed and enters airways. If aspirated into lungs during swallowing or vomiting, may cause chemical pneumonia, pulmonary injury or death.
Chronic effects	Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Product		Species	Test Results
NAPA® Non-Chlorinated Brakleen® Brake Parts Cleaner			
Aquatic			
Crustacea	EC50	Daphnia	29166.4414 mg/l, 48 hours estimated
<i>Acute</i>			
Fish	LC50	Fish	8.036 mg/l, 96 hours estimated
Components		Species	Test Results
Cyclohexane (CAS 110-82-7)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	23.03 - 42.07 mg/l, 96 hours
Isopropyl alcohol (CAS 67-63-0)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	7550 - 13299 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	3200 mg/l, 96 hours
Methylcyclohexane (CAS 108-87-2)			
Aquatic			
Fish	LC50	Striped bass (Morone saxatilis)	5.8 mg/l, 96 hours
n-Heptane (CAS 142-82-5)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.1 - 2.98 mg/l, 96 hours
n-Hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Cyclohexane	3.44
Isopropyl alcohol	0.05
Methylcyclohexane	3.61
n-Heptane	4.66
n-Hexane	3.9

Partition coefficient n-octanol / water (log Kow)

n-Octane

5.18

Mobility in soil

No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations**Disposal of waste from residues / unused products**

If discarded, this product is considered a RCRA ignitable waste, D001. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code

D001: Waste Flammable material with a flash point <140 F

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information**DOT**

UN number	UN1950
UN proper shipping name	Aerosols, flammable, limited quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, limited quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, LIMITED QUANTITY, MARINE POLLUTANT
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	Yes
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

General information

IMDG Regulated Marine Pollutant.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

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

Not listed.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Cyclohexane (CAS 110-82-7)

CERCLA Hazardous Substance List (40 CFR 302.4)

Cyclohexane (CAS 110-82-7)

CERCLA Hazardous Substances: Reportable quantity

Cyclohexane (CAS 110-82-7) 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.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Immediate Hazard - Yes

Hazard categories Delayed Hazard - Yes

Fire Hazard - Yes

Pressure Hazard - Yes

Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

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

3-Methylhexane (CAS 589-34-4)

Carbon dioxide (CAS 124-38-9)

Methylcyclohexane (CAS 108-87-2)

n-Heptane (CAS 142-82-5)

Cyclohexane (CAS 110-82-7)

Isopropyl alcohol (CAS 67-63-0)

n-Hexane (CAS 110-54-3)

US. Massachusetts RTK - Substance List

3-Methylhexane (CAS 589-34-4)

Carbon dioxide (CAS 124-38-9)

Cyclohexane (CAS 110-82-7)

Isopropyl alcohol (CAS 67-63-0)

Methylcyclohexane (CAS 108-87-2)

n-Heptane (CAS 142-82-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Cyclohexane (CAS 110-82-7)

Isopropyl alcohol (CAS 67-63-0)

3-Methylhexane (CAS 589-34-4)

Carbon dioxide (CAS 124-38-9)

Methylcyclohexane (CAS 108-87-2)

n-Heptane (CAS 142-82-5)

n-Hexane (CAS 110-54-3)
n-Octane (CAS 111-65-9)

US. Rhode Island RTK

Cyclohexane (CAS 110-82-7)
n-Hexane (CAS 110-54-3)

US. California Proposition 65

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

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Benzene (CAS 71-43-2) Listed: February 27, 1987
Ethylbenzene (CAS 100-41-4) Listed: June 11, 2004

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Benzene (CAS 71-43-2) Listed: December 26, 1997
Toluene (CAS 108-88-3) Listed: January 1, 1991

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Toluene (CAS 108-88-3) Listed: August 7, 2009

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Benzene (CAS 71-43-2) Listed: December 26, 1997

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s)) 95.5 %

Consumer products (40 CFR 59, Subpt. C) Not regulated

State

Consumer products This product is regulated as a Brake Cleaner. This product is not compliant to be sold for use in California, Connecticut, Delaware, the District of Columbia, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island and parts of Utah and Virginia. This product is compliant in all other states.

VOC content (CA) 95.5 %

VOC content (OTC) 95.5 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 12-05-2013
Revision date 08-29-2014
Prepared by Allison Cho
Version # 02
Further information CRC # 881A

HMIS® ratings

Health: 2*
Flammability: 4
Physical hazard: 0
Personal protection: B

NFPA ratings

Health: 2
Flammability: 4
Instability: 0

NFPA ratings**Disclaimer**

CRC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information 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 (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.



SAFETY DATA SHEET

1. Identification

Product identifier NAPA/CRC® Power Lube® Multi-Purpose Lubricant

Other means of identification

Product code 091839, 091848

Recommended use Multi-purpose lubricant

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300


Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)
703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
OSHA defined hazards	Not classified.	
Label elements		

Signal word Danger

Hazard statement Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not apply while equipment is energized. Pressurized container: Do not pierce or burn, even after use. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Extinguish all flames, pilot lights and heaters. Vapors will accumulate readily and may ignite. Do not breathe gas, mist or vapor. Wear protective gloves. Wash hands thoroughly after handling. Avoid release to the environment.

Response If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

Storage Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.

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

Hazard(s) not otherwise
classified (HNOC)

None known.

Supplemental information

35% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates (petroleum), Hydrotreated Light		64742-47-8	60 - 70
Distillates (petroleum), Solvent-refined Heavy Paraffinic		64741-88-4	10 - 20
n-Butyl stearate		123-95-5	3 - 5
Carbon dioxide		124-38-9	1 - 3
Methyl salicylate		119-36-8	1 - 3
Petrolatum		8009-03-8	1 - 3
Sorbitan monooleate		68910-94-1	1 - 3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Skin irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause drowsiness or dizziness. May cause redness and pain. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water. Water spray. Dry powder. Dry chemicals. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
General fire hazards	Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not breathe gas, mist or vapor. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Use water spray to reduce vapors or divert vapor cloud drift. Scoop up used absorbent into drums or other appropriate container. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. 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. Do not re-use empty containers. Do not breathe mist or vapor. Do not breathe gas. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Avoid contact with clothing. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3	
Distillates (petroleum), Solvent-refined Heavy Paraffinic (CAS 64741-88-4)	PEL	5000 ppm 5 mg/m3	Mist.
Petrolatum (CAS 8009-03-8)	PEL	2000 mg/m3 500 ppm 5 mg/m3	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm	
Distillates (petroleum), Solvent-refined Heavy Paraffinic (CAS 64741-88-4)	TWA	5000 ppm 5 mg/m3	Inhalable fraction.
n-Butyl stearate (CAS 123-95-5)	TWA	10 mg/m3	
Petrolatum (CAS 8009-03-8)	TWA	5 mg/m3	Inhalable fraction.

Components	Type	Value	Form
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3	
	TWA	30000 ppm 9000 mg/m3 5000 ppm	
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)	TWA	100 mg/m3	
Distillates (petroleum), Solvent-refined Heavy Paraffinic (CAS 64741-88-4)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
Petrolatum (CAS 8009-03-8)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear protective gloves such as neoprene or nitrile.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

Wear positive pressure self-contained breathing apparatus (SCBA). Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Aerosol.

Color

Amber.

Odor

Mint.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

-72.4 °F (-58 °C) estimated

Initial boiling point and boiling range

212 °F (100 °C) estimated

Flash point

196 °F (91.1 °C) Tag Closed Cup

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

0.6 % estimated

Flammability limit - upper (%)

5.5 % estimated

Vapor pressure

2074.6 hPa estimated

Vapor density

Not available.

Relative density

0.85 estimated

Solubility (water)

Not available.

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	456.8 °F (236 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	88.3 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May be fatal if swallowed and enters airways.
Inhalation	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful. May cause damage to organs by inhalation.
Skin contact	Causes skin irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways. Narcotic effects.
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Product	Species	Test Results
NAPA/CRC® Power Lube® Multi-Purpose Lubricant		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2856.9861 mg/kg estimated
<i>Inhalation</i>		
LC50	Rat	195.4966 mg/l estimated
<i>Oral</i>		
LD50	Rat	6164.1128 mg/kg estimated
Subchronic		
<i>Oral</i>		
LD50	Rat	783.0176 g/kg, 14 days estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Narcotic effects.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	May be fatal if swallowed and enters airways.

12. Ecological information

Ecotoxicity		Toxic to aquatic life.	
Product		Species	Test Results
NAPA/CRC® Power Lube® Multi-Purpose Lubricant			
<i>Acute</i>			
Fish	LC50	Fish	4942.9658 ppm, 96 hours estimated
Components		Species	Test Results
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)			
<i>Aquatic</i>			
<i>Acute</i>			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	2.2 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Methyl salicylate 2.55

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products	The dispensed liquid product is not a RCRA hazardous waste (See 40 CFR Part 261.20 - 261.33). Empty container can be recycled. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national regulations.
Hazardous waste code	Not regulated.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable, limited quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, limited quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, LIMITED QUANTITY
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
SARA 304 Emergency release notification	Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.
US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance	Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed.
CERCLA Hazardous Substances: Reportable quantity	Not listed. 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.
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List	Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)	Not regulated.
Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.
Superfund Amendments and Reauthorization Act of 1986 (SARA)	
Section 311/312	Immediate Hazard - Yes
Hazard categories	Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No
US state regulations	
US. New Jersey RTK - Substances: Listed substance	Carbon dioxide (CAS 124-38-9)
US. Massachusetts RTK - Substance List	Carbon dioxide (CAS 124-38-9)
US. Pennsylvania RTK - Hazardous Substances	Carbon dioxide (CAS 124-38-9) Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8) Methyl salicylate (CAS 119-36-8)
US. Rhode Island RTK	None.
US. California Proposition 65	California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Volatile organic compounds (VOC) regulations**EPA****VOC content (40 CFR 51.100(s))** 97.1 %**Consumer products (40 CFR 59, Subpt. C)** Not regulated**State****Consumer products** This product is regulated as a Multi-Purpose Lubricant. This product is compliant for use in all 50 states.**VOC content (CA)** 0 %**VOC content (OTC)** 0 %**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	10-25-2013
Prepared by	Allison Cho
Version #	01
Further information	CRC # 462F
HMIS® ratings	Health: 1* Flammability: 4 Physical hazard: 0 Personal protection: B
NFPA ratings	Health: 1 Flammability: 4 Instability: 0
Disclaimer	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 (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.



Safety Data Sheet

1 - Identification

Product Name: WD-40 Multi-Use Product Aerosol NOT FOR SALE IN CALIFORNIA Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion Restrictions on Use: None identified SDS Date Of Preparation: 07/20/2014	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)
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2 – Hazards Identification

Hazcom 2012/GHS Classification:

Flammable Aerosol Category 1

Gas Under Pressure: Compressed Gas

Aspiration Toxicity Category 1

Note: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Label Elements:



DANGER!

Extremely Flammable Aerosol.

Contains gas under pressure; may explode if heated.

May be fatal if swallowed and enters airways.

Prevention

Keep away from heat, sparks, open flames, hot surfaces – No smoking.

Do not spray on an open flame or other ignition source.

Pressurized container: Do not pierce or burn, even after use.

Response

IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

Storage

Store locked up.

Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place.

Disposal

Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	US Hazcom 2012/ GHS Classification
Aliphatic Hydrocarbon	64742-47-8	45-50	Flammable Liquid Category 3

			Aspiration Toxicity Category 1
Petroleum Base Oil	64742-56-9 64742-65-0 64742-53-6 64742-54-7 64742-71-8	<25	Not Hazardous
LVP Aliphatic Hydrocarbon	64742-47-8	12-18	Aspiration Toxicity Category 1
Carbon Dioxide	124-38-9	2-3	Simple Asphyxiant Gas Under Pressure, Compressed Gas
Non-Hazardous Ingredients	Mixture	<10	Not Hazardous

Note: The exact percentages are a trade secret.

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.

Signs and Symptoms of Exposure: May cause eye and respiratory irritation. Inhalation may cause coughing, headache and dizziness. Skin contact may cause drying of the skin.

Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) 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.

Specific Hazards Arising from the Chemical: 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. Combustion will produce oxides of carbon and hydrocarbons.

Special Protective Equipment and Precautions for Fire-Fighters: 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.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.

Methods and Materials for Containment/Cleanup: 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

Precautions for Safe 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.

Conditions for Safe 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. Store away from oxidizers.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 TWA, 10 mg/m3 STEL ACGIH TLV 5 mg/m3 TWA OSHA PEL
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA (OSHA/ACGIH), 30,000 ppm STEL (ACGIH)
Non-Hazardous Ingredients	None Established

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

Appropriate 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

Appropriate 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

Appearance:	Light amber liquid	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8%
Odor:	Mild petroleum odor	Vapor Pressure:	95-115 PSI @ 70°F
Odor Threshold:	Not established	Vapor Density:	Greater than 1 (air=1)
pH:	Not Applicable	Relative Density:	0.8 – 0.82 @ 60°F
Melting/Freezing Point	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	361 - 369°F (183 - 187°C)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	122°F (49°C) Tag Closed Cup (concentrate)	Autoignition Temperature:	Not established
Evaporation Rate:	Not established	Decomposition Temperature:	Not established
Flammability (solid, gas)	Flammable Aerosol	Viscosity:	2.79-2.96 cSt @ 100°F
VOC:	412 grams/liter (49.5%)	Pour Point:	-63°C (-81.4°F) ASTM D-97

10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions

Chemical Stability: Stable

Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.

Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

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.

Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.

Reproductive Toxicity: None of the components is considered a reproductive hazard.

Numerical Measures of Toxicity:

The oral toxicity of this product is estimated to be greater than 5,000 mg/kg and the dermal toxicity greater than 2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available, however components of this product are not expected to be harmful to aquatic organisms

Persistence and Degradability: Component are readily biodegradable.

Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.

Mobility in Soil: No data available

Other Adverse Effects: None known

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. Do not puncture or incinerate containers, even empty. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description:

UN1950, Aerosols, 2.1 Ltd. Qty (Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)

IMDG Shipping Description: Un1950, Aerosols, 2.1, LTD QTY

ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1 NOTE: WD-40 does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol products be transported by air.

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.

VOC Regulations: This product complies with the consumer product VOC limits of the US EPA and states adopting the OTC VOC rules but does not comply with CARB.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not contain chemicals regulated under California Proposition 65.

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 A (Compressed gas), 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)

Revision Date: July 20, 2014

Supersedes: May 23, 2014

Revision Summary: Convert to Hazcom 2012. Changes in all sections.

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA

APPROVED By: I. Kowalski

Regulatory Affairs Dept.

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/25/2014

Revised On 09/25/2014

1 Identification of the substance and manufacturer

Trade name: MRO COLD GALV (BULK)

Product code: 0000011445
 Product category: PC9a Paints and coatings.
 Manufacturer/Supplier: Seymour of Sycamore



917 Crosby Avenue
 Sycamore, IL 60178
 Phone: 815-895-9101 www.seymourpaint.com

Emergency telephone number: CHEMTEL 1-800-255-3924, 813-248-0585 *if located outside the U.S.*

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Eye Irrit. 2A H319 Causes serious eye irritation.

GHS Hazard pictograms



GHS02 GHS07 GHS08

Signal word

Danger

Hazard statements

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause damage to organs through prolonged or repeated exposure.

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Wash hands thoroughly after handling.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wear protective gloves/protective clothing/eye protection/face protection.

Do not breathe dust/fume/gas/mist/vapours/spray.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

In case of fire: Use for extinction: CO2, powder or water spray.

If eye irritation persists: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Store in a well-ventilated place. Keep cool.

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

3 Composition/information on ingredients

Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

7440-66-6	zinc powder	66.64%
540-88-5	tert-butyl acetate	9.66%
64742-89-8	VM&P Naphtha	5.37%
64742-47-8	Mineral Spirits	4.66%
8002-43-5	Soya Lecithin	1.37%
872-50-4	N-methyl-2-pyrrolidone	0.19%

4 First-aid measures

After inhalation: If breathing is difficult, administer oxygen.

After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.

After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects: No further relevant information available.

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Special hazards: No further relevant information available.

(Contd. on page 2)
US4

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/25/2014

Revised On 09/25/2014

Trade name: MRO COLD GALV (BULK)

(Contd. of page 1)

Protective equipment for firefighters:

No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Keep unprotected persons away.

Methods and material for containment and cleaning up:

Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

7 Handling and storage

Precautions for safe handling
Storage requirements:

Use only in well ventilated areas.
Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions.
Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

540-88-5 tert-butyl acetate

PEL (USA)	Long-term value: 950 mg/m ³ , 200 ppm
REL (USA)	Long-term value: 950 mg/m ³ , 200 ppm
TLV (USA)	Long-term value: 950 mg/m ³ , 200 ppm

872-50-4 N-methyl-2-pyrrolidone

WEEL (USA)	Long-term value: 10 ppm
	Skin

Ingredients with biological limit values:

872-50-4 N-methyl-2-pyrrolidone

BEI (USA)	100 mg/L
	Medium: urine
	Time: end of shift
	Parameter: 5-Hydroxy-N-methyl-2-pyrrolidone

Hygienic protection:

Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment:

Not required.

Hand protection:

Protective gloves. The glove material must be impermeable and resistant to the substance.

Eye protection:

Tightly sealed goggles

9 Physical and chemical properties

Appearance: Liquid.
Odor threshold: Not determined.

pH-value: Not determined.

Melting point/Melting range: Undetermined.

Boiling point: 85 °C (185 °F)

Flash point: -19 °C (-2 °F)

Flammability (solid, gas): Highly flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.

Lower Explosion Limit: Not determined.

Upper Explosion Limit: Not determined.

Vapor pressure: Not determined.

Vapour density: Not determined.

Evaporation rate: Not determined.

Partition coefficient: n-octanol/water: Not determined.

Solubility: Not determined.

Viscosity: Not determined.

VOC content: 311.4 g/l / 2.60 lb/gl

VOC content (less exempt solvents): 19.9 %

MIR Value: 0.00

(Contd. on page 3)

US4

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/25/2014

Revised On 09/25/2014

Trade name: MRO COLD GALV (BULK)

(Contd. of page 2)

Solids content: 78.0 %

10 Stability and reactivity

Conditions to avoid: No decomposition if used according to specifications.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

872-50-4 N-methyl-2-pyrrolidone

Oral LD50 3600 mg/kg (rat)

Dermal LD50 8000 mg/kg (rbt)

Information on toxicological effects: No data available.
Sensitization: No sensitizing effects known.

Carcinogenic categories**IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

7440-43-9 cadmium (non-pyrophoric)

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1263
DOT Paint
ADR 1263 Paint, ENVIRONMENTALLY HAZARDOUS
Transport hazard class(es):
Class 3 Flammable liquids
Marine pollutant: Yes
Symbol (fish and tree)
Warning: Flammable liquids
Special precautions for user: F-E, S-E
EMS Number: II
Packaging Group: UN1263, Paint, ENVIRONMENTALLY HAZARDOUS, 3, II
UN "Model Regulation":

15 Regulatory information**SARA Section 355 (extremely hazardous substances):**

None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

7440-66-6 zinc powder

1314-13-2 zinc oxide

CPSC: This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.**California Proposition 65 chemicals known to cause cancer:**

None of the ingredients in this product are listed.

EPA:

7440-66-6 zinc powder

D, I, II

1314-13-2 zinc oxide

D, I, II

Safety Data Sheet
acc. to OSHA HCS

Printing date 09/25/2014

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Revised On 09/25/2014

Trade name: MRO COLD GALV (BULK)

(Contd. of page 3)

16 Other information

Contact: Regulatory Affairs

US4

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/25/2014

Revised On 09/25/2014

1 Identification of the substance and manufacturer

Trade name: MRO SAFETY ORANGE (GALLONS)

Product code: 0000011451

Product category: PC9a Paints and coatings.

Manufacturer/Supplier: Seymour of Sycamore

917 Crosby Avenue

Sycamore, IL 60178

Phone: 815-895-9101 www.seymourpaint.com

Emergency telephone number: CHEMTEL 1-800-255-3924, 813-248-0585 *if located outside the U.S.*



2 Hazard(s) identification

Classification of the substance or mixture

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Eye Irrit. 2A H319 Causes serious eye irritation.

GHS Hazard pictograms



GHS02 GHS07 GHS08

Signal word

Hazard statements

Precautionary statements

Danger

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause damage to organs through prolonged or repeated exposure.

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Wash hands thoroughly after handling.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wear protective gloves/protective clothing/eye protection/face protection.

Do not breathe dust/fume/gas/mist/vapours/spray.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

In case of fire: Use for extinction: CO2, powder or water spray.

If eye irritation persists: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Store in a well-ventilated place. Keep cool.

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

3 Composition/information on ingredients

Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

64742-47-8	Mineral Spirits	18.46%
7727-43-7	barium sulphate, natural	14.97%
108-65-6	PM acetate	7.64%
13463-67-7	titanium dioxide	2.52%
64742-48-9	Naphtha (petroleum), hydrotreated heavy	1.11%
1330-20-7	xylene (mix)	1.06%

4 First-aid measures

After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects: No further relevant information available.

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Special hazards: No further relevant information available.

Protective equipment for firefighters: No special measures required.

Safety Data Sheet

acc. to OSHA HCS

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Trade name: MRO SAFETY ORANGE (GALLONS)

(Contd. of page 1)

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Not required.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

7 Handling and storage

Precautions for safe handling

Use only in well ventilated areas.

Storage requirements:

Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

7727-43-7 barium sulphate, natural

PEL (USA) Long-term value: 15* 5** mg/m³

*total dust **respirable fraction

REL (USA) Long-term value: 10* 5** mg/m³

*total dust **respirable fraction

TLV (USA) Long-term value: 5* mg/m³

*inhalable fraction; E

108-65-6 PM acetate

WEEL (USA) Long-term value: 50 ppm

1330-20-7 xylene (mix)

PEL (USA) Long-term value: 435 mg/m³, 100 ppm

REL (USA) Short-term value: 655 mg/m³, 150 ppm

Long-term value: 435 mg/m³, 100 ppm

TLV (USA) Short-term value: 651 mg/m³, 150 ppm

Long-term value: 434 mg/m³, 100 ppm

BEI

Ingredients with biological limit values:

1330-20-7 xylene (mix)

BEI (USA) 1.5 g/g creatinine

Medium: urine

Time: end of shift

Parameter: Methylhippuric acids

Hygienic protection:

Wash hands after use.

Do not eat or drink while working.

Breathing equipment:

Not required.

Hand protection:

Protective gloves. The glove material must be impermeable and resistant to the substance.

Eye protection:

Tightly sealed goggles

9 Physical and chemical properties

Appearance: Liquid.

Odor threshold: Not determined.

pH-value: Not determined.

Melting point/Melting range: Undetermined.

Boiling point: 146 °C (295 °F)

Flash point: -19 °C (-2 °F)

Flammability (solid, gas): Highly flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.

Lower Explosion Limit: 0.5 Vol %

Upper Explosion Limit: 6.5 Vol %

Vapor pressure: Not determined.

Vapour density: Not determined.

Evaporation rate: Not determined.

Partition coefficient: n-octanol/water: Not determined.

Solubility: Not determined.

Viscosity: Not determined.

VOC content: 324.9 g/l / 2.71 lb/gal

VOC content (less exempt solvents): 29.1 %

MIR Value: 0.00

(Contd. on page 3)
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Trade name: MRO SAFETY ORANGE (GALLONS)

(Contd. of page 2)

Solids content: 69.9 %

10 Stability and reactivity

Conditions to avoid: No decomposition if used according to specifications.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

108-65-6 PM acetate

Oral	LD50	8500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)

13463-67-7 titanium dioxide

Oral	LD50	>20000 mg/kg (rat)
Dermal	LD50	>10000 mg/kg (rbt)
Inhalative	LC50/4 h	>6.82 mg/l (rat)

64742-48-9 Naphtha (petroleum), hydrotreated heavy

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>3000 mg/kg (rab)

1330-20-7 xylene (mix)

Oral	LD50	8700 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rbt)
Inhalative	LC50/4 h	6350 mg/l (rat)

Information on toxicological effects: No data available.
Sensitization: No sensitizing effects known.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

13463-67-7	titanium dioxide	2B
1330-20-7	xylene (mix)	3

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number	UN1263
DOT	Paint
ADR	1263 Paint
Transport hazard class(es):	
Class	3 Flammable liquids
Marine pollutant:	No
Special precautions for user:	Warning: Flammable liquids
EMS Number:	F-E,S-E
Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L

ADR
Excepted quantities (EQ) Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

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Trade name: MRO SAFETY ORANGE (GALLONS)

(Contd. of page 3)

IMDG

Limited quantities (LQ)
Excepted quantities (EQ)

5L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
UN1263, Paint, 3, II

UN "Model Regulation":

15 Regulatory information**SARA Section 355 (extremely hazardous substances):**

None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

7727-43-7 barium sulphate, natural

1330-20-7 xylene (mix)

CPSC: This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.**California Proposition 65 chemicals known to cause cancer:**

13463-67-7 titanium dioxide

100-41-4 ethyl benzene

EPA:

7727-43-7 barium sulphate, natural

D, CBD(inh), NL(oral)

1330-20-7 xylene (mix)

I

16 Other information**Contact:** Regulatory Affairs

US4

SECTION 1: IDENTIFICATION

MSDS ID: MSDSP149

PRODUCT NAME: PRESTONE ANTIFREEZE/COOLANT
Product Number: AF777
Formula Number: YA721, YA718, YA718B

MANUFACTURER: Prestone Products Corporation
39 Old Ridgebury Road
Danbury, CT 06810-5109

INFORMATION PHONE NUMBER: (203) 731-3686

EMERGENCY PHONE NUMBER: CHEMTREC 1-800-424-9300
483-7161 in the District of Columbia

MSDS DATE OF PREPARATION/REVISION: 10/18/99

SECTION 2: PRODUCT COMPONENTS

HAZARDOUS COMPONENTS	CAS#	PERCENT	EXPOSURE LIMITS
Ethylene Glycol (aerosol)	107-21-1	80-96	None Established-OSHA PEL 100 mg/m3 Ceiling ACGIH TLV
Diethylene Glycol	111-46-6	0-8	None Established OSHA PEL, ACGIH TLV

Non-Hazardous Ingredients >1%
Water 7732-18-5

SECTION 3: HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

Eye and upper respiratory irritant. May cause nausea, vomiting, headache, drowsiness, blurred vision, convulsions, coma or death if ingested or inhaled. Prolonged or repeated skin contact may cause dermatitis or skin sensitization.

POTENTIAL HEALTH EFFECTS:

INHALATION: May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations caused, for example, by heating the material in an enclosed and poorly ventilated workplace, may produce nausea, vomiting, headache, dizziness and irregular eye movements.

SKIN CONTACT: No evidence of adverse effects from available information.

EYE CONTACT: Liquid, vapors or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.

INGESTION: Following ingestion, a bitter taste may be noted. May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal may follow the swallowing of ethylene glycol. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.

CHRONIC EFFECTS: Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, particularly dizziness and jerking eye movements. Prolonged or repeated skin contact may cause skin sensitization and an associated dermatitis in some individuals. Ethylene glycol has been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined. See section 11 for additional information.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: The available toxicological information and a knowledge of the physical and chemical properties of the material suggest that overexposure is unlikely to aggravate existing medical conditions.

CARCINOGEN: None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

SECTION 4: FIRST AID MEASURES

INHALATION: Remove the victim to fresh air. If breathing has stopped administer artificial respiration. If breathing is difficult, have medical personnel administer oxygen. Get medical attention.

SKIN CONTACT: Remove contaminated clothing. Immediately wash contacted area thoroughly with soap and water. If irritation persists, get medical attention.

EYE CONTACT: Immediately flush eyes with large amounts of water for 15 minutes. Get medical attention if irritation persists.

INGESTION: Seek immediate medical attention. Immediately call local poison control center or go to an emergency department. Never give anything by mouth to or induce vomiting in an unconscious or drowsy person.

NOTES TO PHYSICIAN: The principal toxic effects of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. The combination of metabolic acidosis, an osmol gap and oxalate crystals in the urine is evidence of ethylene glycol poisoning.

Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required.

There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth, and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia.

Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Ethanol blood levels should be checked frequently. Hemodialysis may be required.

4-Methylpyrazole (Antizole(R) or Fomepizole), a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of ethylene glycol poisoning. Additional therapeutic modalities which may decrease the adverse consequences of ethylene glycol metabolism are the administration of both thiamine and pyridoxine. As there are complicated and serious overdoses, we recommend you consult with the toxicologists at your poison control center. This antidote is now approved by the F.D.A. and in many cases has replaced ethanol in the treatment of ethylene glycol poisoning.

SECTION 5: FIRE AND EXPLOSION DATA

FLASH POINT: 242 F (117 C) TOC
220 F (104 C) PMCC

AUTOIGNITION TEMPERATURE: Not determined

FLAMMABILITY LIMITS: LEL: 3.2% UEL: 15.3%

EXTINGUISHING MEDIA: For large fires, use alcohol type or all-purpose foams. For small fires, use water spray, carbon dioxide or dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Do not spray pool fires directly. Cool fire exposed containers with water. 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 HAZARDS: A solid stream of water or foam directed into hot, burning liquid can cause frothing.

HAZARDOUS COMBUSTION PRODUCTS: Burning may produce carbon monoxide and carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Wear appropriate protective clothing and equipment (See Section 8).
Collect with absorbent material and place in appropriate, labeled container for disposal or, if permitted flush spill area with water.

SECTION 7: HANDLING AND STORAGE

DANGER: Harmful or Fatal if Swallowed

Do not drink antifreeze or solution.
Avoid eye and prolonged or repeated skin contact.
Avoid breathing vapors or mists.
Wash exposed skin thoroughly with soap and water after use.
Do not store in opened or unlabeled containers.

Keep container away from open flames and excessive heat.
Do not reuse empty containers unless properly cleaned.

Empty containers retain product residue and may be dangerous. Do not cut, weld, drill, etc. containers, even empty.

Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without any obvious ignition sources. Published "autoignition" or "ignition" temperatures cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Use of this product in elevated temperature applications should be thoroughly evaluated to assure safe operating conditions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: Use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits.

RESPIRATORY PROTECTION: For operations where the TLV is exceeded a NIOSH approved respirator with organic vapor cartridges and dust/mist prefilters or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration. Select and use in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

GLOVES: Chemical resistant gloves such as neoprene or PVC where contact is possible

EYE PROTECTION: Splash-proof goggles.

OTHER PROTECTIVE EQUIPMENT/CLOTHING: Appropriate protective clothing as needed to minimize skin contact. Suitable washing and eye flushing facilities should be available in the work area. Contaminated clothing should be removed and laundered before re-use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Yellow liquid with a mild odor.

pH: Not determined	SPECIFIC GRAVITY: 1.12
BOILING POINT (F): 334 F	VAPOR PRESSURE: Less than 0.1
FREEZING POINT (F): -8 F	VAPOR DENSITY: 2.1
SOLUBILITY IN WATER: 100%	EVAPORATION RATE: Less than 1
PERCENT VOLATILE: None	VISCOSITY: Not determine

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: None known.
INCOMPATIBILITY: Normally unreactive, however, avoid strong bases at high temperatures, strong acids, strong oxidizing agents, and materials reactive with hydroxyl compounds.
DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide.
HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID: None known.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY VALUES:

Ethylene Glycol: LD50 Oral Rat: 4700 mg/kg
LD50 Skin Rabbit: 9530 mg/kg

Diethylene Glycol: LD50 Oral Rat: 12,565 mg/kg
LD50 Skin Rabbit: 11,890 mg/kg

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH:

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations 150, 1,000 and 2,500 mg/m³ for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentrations, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol, percutaneous absorption of ethylene glycol from contaminated skin, or swallowing of ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure

resulted in maternal toxicity (1,000 and 2,500 mg/m³) and developmental toxicity in with minimal evidence of teratogenicity (2,500 mg/m³). The no-effects concentration (based on maternal toxicity) was 500 mg/m³. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to the skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen; there is currently no available information to suggest that ethylene glycol caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity; exposure to high aerosol concentration is only minimally effective in producing developmental toxicity; the major route for producing developmental toxicity is perorally.

Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of carcinogenic potential for ethylene glycol has been supported by numerous invitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

This products contains less than 0.5% tolytriazole which has demonstrates mutagenic activity in a bacterial test system. A correlation has been established between mutagenic activity and carcinogenic activity for many chemicals. Tolytriazole has not been identified as a carcinogen or probable carcinogen by NTP, IARC or OSHA.

SECTION 12: ECOLOGICAL INFORMATION

Ethylene Glycol: LC50 Goldfish: 5,000 mg/L/24 hr. at 20 C static conditions.

Toxicity threshold (cell multiplication inhibition test):

Bacterial (*Pseudomonas putida*): 10,000 mg/l

Protozoa (*Entosiphon sulcatum* and *Uronema parduczi* Chatton-Lwoff): >10,000 mg/l

Algae (*Microcystis aeruginosa*): 2,000 mg/l

Green algae (*Scenedesmus quandricauda*): >10,000 mg/l

SECTION 13: DISPOSAL INFORMATION

Dispose of product in accordance with all local, state/provincial and federal regulations.

SECTION 14: TRANSPORT INFORMATION

U.S. DOT HAZARD CLASSIFICATION



PROPER SHIPPING NAME: None
UN NUMBER: None
LABELS REQUIRED: None

DOT MARINE POLLUTANTS: This product does not contains Marine Pollutants as defined in 49 CFR 171.8.

IMDG CODE SHIPPING CLASSIFICATION

DESCRIPTION: Not Regulated

Note: IF A BULK SHIPMENT IS INVOLVED, THE FOLLOWING INFORMATION APPLIES:

U.S. DOT HAZARD CLASSIFICATION

PROPER SHIPPING NAME: Environmentally hazardous substance, liquid,
N.O.S. (Ethylene glycol)

UN NUMBER: UN3082

LABELS REQUIRED: Class 9, UN3082

SECTION 15: REGULATORY INFORMATION

EPA SARA 311/312 HAZARD CLASSIFICATION: Acute health, chronic health

EPA SARA 313: This Product Contains the Following Chemicals
Subject to Annual Release Reporting Requirements Under SARA Title
III, Section 313 (40 CFR 372):

Ethylene Glycol 107-21-1 80-96%

PROTECTION OF STRATOSPHERIC OZONE: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA SECTION 103: Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for this product, based on the RQ for Ethylene Glycol (96% maximum) of 5,000 lbs, is 5,208 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

CALIFORNIA PROPOSITION 65 - This product may contain the following substances known to the State of California to cause Cancer and/or Reproductive Harm: 1,4-Dioxane (trace amount).

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the ingredients are listed on the Canadian Domestic Substances List.

CANADIAN WHMIS CLASSIFICATION: Class D - Division 2 - Subdivision B - (A toxic material causing other chronic effects)

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS): All of the ingredients are listed on the EINECS inventory.

AUSTRALIA: All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances.

SECTION 16: OTHER INFORMATION

NFPA RATING (NFPA 704) - FIRE: 1
HEALTH: 2
REACTIVITY: 0

REVISION SUMMARY: Section 4: Notes to Physican
Section 9: Specific Gravity
Section 16: Contact Name and Address

This MSDS is directed to professional users and bulk handlers of the product. Consumer products are labeled in accordance with Federal Hazardous Substances Act regulations.

While Prestone Products Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of tests conducted, the data are not to be taken as a warranty or representation for which Prestone Products Corporation assumes legal responsibility. They are offered for your consideration, investigation and verification. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

If more information is needed, please contact: Stan Prusakowski
Prestone Products Corporation
55 Federal Road
Danbury, CT 06810
(203)830-7865



SAFETY DATA SHEET

Issuing Date 30-April-2015

Revision Date

Revision Number 0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS Product Identifier

Product Name: CrackMaster Supreme

Other Means of Identification

Product Code(s): M1050

Synonyms None

Recommended Use of the Chemical and Restrictions on Use

Recommended Use: Sealant

Uses Advised Against: No information Available

Supplier's Details

Supplier Address
ThorWorks Industries, Inc
2520 S. Campbell St.
Sandusky, OH 44870
1-800-326-1994

Emergency Telephone Number

Emergency Telephone Number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

Classification in accordance to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200) = 1B H350

GHS Label Elements, Including Precautionary Statements

Emergency Overview

Signal Word

Danger



H350 May Cause Cancer
P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P280 Wear eye protection, face protection, protective clothing, protective gloves
P308 + P313 If exposed or concerned: Get medical attention
P405 Store locked up
P501 Dispose of contents/container to an authorized waste collection point

Describe any hazards- Hot material will burn skin.

Appearance: Black/Dark Brown **Physical State:** Solid at room temperature, liquid above softening point. **Odor:** Petroleum

Hazard Not Otherwise Classified (HNOC)

Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	%	GHS-US classification
Extracts (petroleum), heavy paraffinic distillate solvent	64742.-04-7	0.1-20	Carc. 1B, H350
Carbon Black	1333-86-4	0-5	Carc. 2, H351 **

**Bound, not available to inhale as dust. Full text of H-phrases; see section 16.

4. FIRST AID MEASURES

Description of Necessary First-Aid Measures

General	Never give anything by mouth of an unconscious person. If exposed or concerned: Get medical advice/attention.
Eye Contact	Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart.
Skin Contact	Drench affected area with water for at least 15 minutes.
Inhalation	Remove victim to fresh air and keep at rest in position comfortable for breathing. Get medical attention/advice.
Ingestion	Get Medical attention/advice if you feel unwell.

Most Important Symptoms/Effects, Acute and Delayed

Most Important Symptoms/Effects	May cause cancer Inhalation of vapors may cause respiratory irritation. Heated product causes burns to skin and eyes.
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Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Notes to Physician	Treat Symptomatically and supportively.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Class B. Carbon dioxide. Dry chemical. Foam. Water spray

Unsuitable Extinguishing Media Do not use a heavy water stream.

Specific Hazards Arising from the Chemical

Fire hazard- When heated, material emits irritating fumes. Burning produces irritating, toxic, and noxious fumes.

Explosion hazard- Product is not explosive.

Reactivity- No dangerous reactions known.

Protective Equipment and Precautions for Firefighters

Full protective equipment, including self-contained breathing apparatus to be worn. Do not allow run-off from fire fighting to enter drains/water courses. Exercise caution when fighting any chemical fire.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Personal Precautions:	Avoid all eye and skin contact and do not breathe vapor and mist. Keep upwind.
For non-emergency personnel:	Chemical goggles or safety glasses. Wear suitable protective clothing and gloves. Evacuate unnecessary personnel.
For emergency responders:	Chemical goggles or safety glasses. Wear suitable protective clothing and gloves. Stop leak if safe to do so.

Environmental Precautions

Environmental Precautions:	Do not discharge into drains or the environment.
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Methods and Materials for Containment and Cleaning Up

Methods for Containment:	Stop the flow of material, if this is without risk. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for Cleaning Up:	Allow the molten material to cool. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. On land, sweep or shovel into suitable containers.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling: Avoid breathing vapors. Avoid contact with skin and eyes. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink, or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Storage: Store in properly closed and labeled containers away from sources of ignition. Store containers in a well-ventilated, clean, and dry area.

Incompatible Products: Strong oxidizing agents.

Specific end use: Sealant.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL
Extracts (petroleum), heavy paraffinic distillate solvent (64742-04-7)	Not applicable	Not applicable
Carbon black (1333-86-4)	TWA 3.5 mg/m ³ Remark; Bronchitis	3.5 mg/m ³

Appropriate Engineering Controls

Engineering Measures: Avoid creating mist or spray. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Use only outdoors or in a well-ventilated area.

Individual Protection Measures, such as Personal Protective Equipment

Eye/Face Protection: Chemical goggles or safety glasses. Contact with hot material- risk of serious burns. Face shield.

Skin and Body Protection: Long sleeved protective clothing. Foot protection. Insulated gloves.

Respiratory Protection: In case of inadequate ventilation wear respiratory protection. Appropriate self-contained breathing apparatus may be required.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State: Solid at 77° F/ Liquid above softening point.
Odor: Petroleum

Appearance: Black/Dark Brown
Odor Threshold: No Information Available

Property	Values
pH	No data available
Melting Point/Range	150-250° F (65.5-121.1 ° C)
Boiling Point/Boiling Range	>600° F (>315.6° C)
Flash Point	>400° F (>204.4° C)
Evaporation Rate	No data available
Flammability (solid, gas)	No data available

Property	Values
Flammability Limits in Air	
Upper flammability limit	No data available
Lower flammability limit	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	1.0-1.9
Solubility	No data available
Solubility in other solvents	No data available
Density	8-16 lbs/gal

Partition coefficient: n-octanol/water No data available
Autoignition Temperature >700° F (>371.1° C)
Decomposition Temperature No data available
Viscosity No data available

Explosive Properties No data available
Oxidizing Properties No data available

Other Information

VOC Content 0%

10. STABILITY AND REACTIVITY

Reactivity: No dangerous reactions known.
Chemical Stability: Stable under normal conditions.
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: None known.
Incompatible Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon Monoxide (CO), Hydrogen Sulfide, Aldehydes, Aromatic hydrocarbons. Irritating and/or toxic fumes may be released if burned.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Likely routes of exposure: Skin and eye contact; Inhalation
Acute toxicity: Not classified

Chemical Name	LD50 Oral (Rat)	LC50 Inhalation (Rat)
Carbon Black (1333-86-4)	>8000 mg/kg (Rat)	>4.6 mg/m ³ 4 h

Skin corrosion/irritation: Not Classified
Serious eye damae/irritation: Not Classified
Respiratory or skin sensitization: Not Classified
Germ cell mutagenicity: Not Classified
Carcinogenicity: Not Classified

Chemical Name	IRAC Group	National Toxicology Program (NTP) Status
Carbon Black (1333-86-4)	2B- Possibly carcinogenic to humans, Inhalation of dust.	Not listed in carcinogenicity class

Reproductive Toxicity: Not Classified
Specific target organ toxicity (single exposure): Not Classified
Specific target organ toxicity (repeated exposure): Not Classified
Aspiration hazard: Not Classified
Symptoms/injury after inhalation: Inhalation of vapors may cause respiratory irritation.
Symptoms/injury after skin contact: Heated product causes burns.
Symptoms/injury after eye contact: Heated product causes burns.

12. ECOLOGICAL INFORMATION

Toxicity: No information available.
Persistence and Degradability:
Carbon Black (1333-86-4): Not readily biodegradable
Bioaccumulation Potential: No information available.
Mobility in soil: No information available.
Other Adverse Effects: No information available.

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods:

Sewage disposal recommendations: Do not dispose of waste into sewer.

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

14. TRANSPORTATION INFORMATION

DOT: Not considered a dangerous good for transport regulations.

15. REGULATORY INFORMATION

Legend

TSCA – United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL – Canadian Domestic Substances List/Non-Domestic Substances List

EINECS – European Inventory of Existing Commercial Chemical Substances

U.S. Federal Regulations

Extracts (petroleum), heavy paraffinic distillate solvent (64742-04-7)- listed on the US TSCA inventory.

Carbon Black (1333-86-4)- listed on the US TSCA inventory.

International Regulations

CANADA

Extracts (petroleum), heavy paraffinic distillate solvent (64742-04-7)- listed on the Canadian DSL inventory.

Carbon Black (1333-86-4)- listed on the Canadian DSL inventory.

EU Regulations

Extracts (petroleum), heavy paraffinic distillate solvent (64742-04-7)- listed on the EEC inventory EINECS

Carbon Black (1333-86-4)- listed on the EEC inventory EINECS

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Carc. 1B Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc. Cat. 2; R45

National Regulations

Carbon Black (1333-86-4)- Listed on IARC (International Agency for Research on Cancer)
 Listed on PICCUS (Philippines Inventory of Chemicals and Chemical Substances)
 Listed on NZIoC (New Zealand Inventory of Chemicals)
 Listed on the AICS (Australian Inventory of Chemical Substances)
 Listed on Taiwan National Chemical Inventory
 Listed on the Korean ECL(Existing Chemicals List)
 Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
 Listed on the Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)

U.S. State Regulations

Carbon Black (1333-86-4)

California Proposition 65 Carcinogens List: Yes

California Proposition 65 Developmental Toxicity: No

California Proposition 65 Reproductive Toxicity- Female: No

California Proposition 65 Reproductive Toxicity- Male: No

U.S. State Right-To-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

Chemical Name	New Jersey
Asphalt	X

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazard: 2	Flammability: 1	Instability: 0	Physical and Chemical Hazards-
<u>HMIS</u>	Health Hazard: 2	Flammability: 1	Physical Hazard: 0	Personal Protection: X

Full text of H-phrases:

Carc. 1B- Carcinogenicity, Category 1B
Carc. 2- Carcinogenicity, Category 2
H350- May Cause Cancer
H351- Suspected of Causing Cancer

Revision Date: 30-April-2015
Revision Note: No information available.

General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Material Safety Data Sheet

POOL TIME™ 3" TABLETS STABILIZED CHLORINATOR

Version: 1.3

Revision Date: 11/10/2010

Print Date: 10/03/2012

SECTION 1. PRODUCT AND COMPANY IDENTIFICATIONProduct name: *POOL TIME™ 3" TABLETS STABILIZED CHLORINATOR*

Product Use Description: Swimming Pool Product

Chemical nature: Chlorinated Isocyanurates

Registration number: 67262-17

Company: Recreational Water Products
 Pool Time
 PO Box 1449
 Buford, GA
 30515-1449

Telephone: (800) 949-7946

Emergency telephone number: CHEMTREC: (24 hours) 800-424-9300, 703-527-3887
 Poison Control Center (Medical) :: (877) 800-5553

For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

Prepared by: Product Safety Department
 (US) +1 866-430-2775

+011-886-2-2712-5668 MSDSRequest@chemtura.com

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview****Danger**

Form: tablet Colour: white Odour: Chlorine

Hazard Summary :
 Corrosive
 Oxidizer
 Causes serious eye damage.
 Causes skin burns.
 May be fatal if absorbed through skin.
 Harmful or fatal if swallowed.
 May be fatal if inhaled.
 Causes respiratory tract irritation.
 Avoid breathing dust or vapor.

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Do not get in eyes, on skin, or on clothing.

OSHA Hazards

: THIS MATERIAL IS HAZARDOUS UNDER THE CRITERIA OF THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD 29CFR 1910.1200.

Potential Health Effects

Primary Routes of Entry

: Eye contact
Skin contact
Inhalation
Ingestion

Aggravated Medical Condition

: Respiratory disorders
Skin disorders

Inhalation

: May be fatal if inhaled.
Causes respiratory tract irritation.

Skin

: May be fatal if absorbed through skin.
Causes skin burns.
On contact with moisture, this material readily hydrolyzes to acid which may result in burns if not promptly removed.

Eyes

: Causes serious eye damage.

Ingestion

: Harmful or fatal if swallowed.

Chronic Exposure

: None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Component	CAS-No.	Weight percent
Trichloro-s-triazinetriene	87-90-1	99 %

SECTION 4. FIRST AID MEASURES

First aid procedures

Inhalation

: Remove to fresh air.
If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.

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- Call a physician or poison control centre immediately.
- Skin contact** : Remove contaminated clothing and shoes.
Rinse immediately with plenty of water for at least 15 minutes.
Call a physician or poison control centre immediately.
- Eye contact** : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses, if present, after 5 minutes, then continue rinsing eye.
Call a physician or poison control centre immediately.
- Ingestion** : Call a physician or poison control centre immediately.
Have person sip a glass of water if able to swallow.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Do not give anything by mouth to a convulsing or unconscious person.

Notes to physician

- Treatment** : Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIRE-FIGHTING MEASURES

Flammable properties

- Flash point** : Remarks: not applicable

Fire fighting

- Suitable extinguishing media** : Flood with large volumes of water.

- Unsuitable extinguishing media** : ABC powder
Dry powder
Risk of violent reaction.

- Further information** : Do not let fire burn.

Protective equipment and precautions for firefighters

- Specific hazards during fire fighting** : Under extreme heat (greater than 400F), this product will evolve noxious chlorine containing gases.
- Special protective equipment for fire-fighters** : In the event of fire, wear self-contained breathing apparatus.
Thoroughly decontaminate fire fighting equipment including all fire fighting wearing apparel after the incident.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Environmental precautions** : Do not flush into surface water or sanitary sewer system.

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- Methods for containment /
Methods for cleaning up : Using appropriate protective clothing and safety equipment, contain spilled material.
Do not add water to spilled material.
Using clean dedicated equipment, sweep and scoop all spilled material, contaminated soil, and other contaminated material and place into clean dry containers for disposal.
Do not close containers containing wet or damp material. They should be left open to disperse any hazardous gases that may form.
- Additional advice : Do not use floor sweeping compounds to clean up spills.
Do not transport wet or damp material.
Do not contaminate water, food or feed by storage or disposal or cleaning of equipment.
Treat recovered material as described in the section "Disposal considerations".

SECTION 7. HANDLING AND STORAGE

Handling

- Handling procedures : Strong oxidizing agent.
Avoid contact with skin, eyes and clothing.
Avoid breathing dust.
Avoid breathing vapors.
Do not mix with other chemicals.
Mix only with water.
Never add water to this product.
Always add product to large quantities of water.
Use only clean and dry utensils.
Do not add this product to any dispensing devices containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion.
Contamination with moisture, organic matter or other chemicals may start a chemical reaction and generate heat, hazardous gas, possible fire and explosion.
In case of contamination or decomposition, do not reseal container.
If possible, isolate container in open air or well ventilated area.
Flood with large volumes of water.
Wash hands thoroughly with soap and water after handling and before eating, drinking or using tobacco.
Do not handle until all safety precautions have been read and understood.

Storage

- Requirements for storage areas and containers : Store in original container.
Temperature not to exceed 52 C (125F) for 24 hours.
Store in a cool, dry, well ventilated area away from heat or open flame.
Keep out of reach of children.
Keep away from animals.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Engineering measures

Engineering measures : Ensure that eyewash stations and safety showers are close to the workstation location.
Use with adequate ventilation.

Personal protective equipment

Eye protection : Safety glasses with side-shields

Hand protection : Wear rubber gloves.

Respiratory protection : A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Avoid breathing dust or vapor.
Wash contaminated clothing before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form : tablet

Colour : white

Odour : Chlorine

Safety data

Flash point : Note: not applicable

pH : 3 - 3.5
at
77 °F (25 °C)
Note: 1% Solution

Melting point/range : 437 - 446 °F (225 - 230 °C)
Note: Decomposes

Boiling point/boiling range : Note: not applicable

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Vapour pressure : Note: Not Available

Density : 0.88 - 0.96 g/cm3

Water solubility : 1 - 1.2 g/l
at 77 °F (25 °C)

Relative vapour density : Note: Not Available

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : Remarks: High temperatures.
Poor ventilation.
Contamination
Moisture/high humidity.

Materials to avoid : Remarks: Avoid contact with water on concentrated material in the container. Avoid contact with easily oxidizable material; ammonia, urea, or similar nitrogen containing compounds; inorganic reducing compounds; floor sweeping compounds; calcium hypochlorite; other swimming pool/spa chemicals in their concentrated form; alkalis. Avoid contact with all other chemicals.

Hazardous decomposition products : Note: Chlorine containing gases can be produced.

Thermal decomposition : 225 - 230 °C

Hazardous reactions : Hazardous polymerisation does not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50: 809 mg/kg
Species: rat

Acute inhalation toxicity : Remarks: Direct contact with wet material or moist skin may cause severe irritation, pain and possibly burns.

Acute dermal toxicity : > 2,000 mg/kg
Species: rabbit

Skin irritation : Remarks: Direct contact with wet material or moist skin may cause severe irritation, pain and possibly burns.

Eye irritation : Remarks: Causes serious eye damage.

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12. ECOLOGICAL INFORMATION

Toxicity to fish

Trichloro-s-triazinetriene : LC50: 0.24 mg/l
Exposure time: 96 h

Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates.

Trichloro-s-triazinetriene : LC50: 0.21 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Toxicity to algae

Trichloro-s-triazinetriene : EC50: 655 mg/l
Exposure time: 96 h
Species: Algae

Further information on ecology

Additional ecological information : Toxic to fish.
Toxic to aquatic organisms.
Do not discharge effluent containing this product into lakes, streams, ponds or estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Dispose of waste material in compliance with all federal, state, and local regulations.
If these wastes cannot be disposed of by use according to label instructions, contact your Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance. For registered pesticides, contact your State Pesticide Agency.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor.
Contact with incompatible materials could cause a reaction or fire. Improper disposal of excess product, spray mixture or rinsate is a violation of Federal Law.

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Contaminated packaging : Do not re-use empty containers.
Rinse thoroughly before discarding in trash.

SECTION 14. TRANSPORT INFORMATION**DOT**

UN number : 2468
Description of the goods : Trichloroisocyanuric acid, dry
Class : 5.1
Packing group : II
ERG Code : 140

IATA

UN number : 2468
Description of the goods : Trichloroisocyanuric acid, dry
Class : 5.1
Packing group : II

IMDG

UN number : 2468
Description of the goods : TRICHLOROISOCYANURIC ACID, DRY
Class : 5.1
Packing group : II
EmS Letter 1 : F-A
EmS Letter 2 : S-Q

Marine pollutant : yes
Trichloroisocyanuric acid, dry

Not recommended for shipment by air

Limited Quantity exemption possible

Not regulated by DOT and TDG if shipped or transported in packaging less than 400KG by road and/or rail.

ORM-D Consumer Commodity exemption possible

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

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SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Reactivity Hazard

The components of this product are reported in the following inventories:

TSCA

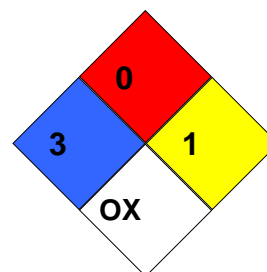
Note: Listed

SECTION 16. OTHER INFORMATION

Further information

HMIS Classification : Health hazard: 3
Flammability: 0
Reactivity: 1
PPI: Ask supervisor or safety specialist for handling instructions

NFPA Classification : Health hazard: 3
Fire Hazard: 0
Reactivity Hazard: 1
Specific hazards: OX Class 1
Oxidizer.

Other Emergency Phone Number

<u>Latin America:</u>	Brazil	+52 113 711 91 44
	All other countries	+44 (0)208 762 8322
<u>Mexico:</u>		+52 555 004 87 63

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is

Material Safety Data Sheet**POOL TIME™ 3" TABLETS STABILIZED CHLORINATOR**

Version: 1.3

Revision Date: 11/10/2010

Print Date: 10/03/2012

not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Precast Concrete

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Revision Date: 02/02/2016

Date of issue: 02/02/2016

Supersedes Date: 12/22/2009

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Precast Concrete

1.2. Intended Use of the Product

Use of the substance/mixture: Concrete products are used in a wide variety of civil engineering projects.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Atlantic Concrete Products, Inc

8900 Old Route 13

Tullytown, PA 19007

215-945-5600

www.atlanticconcrete.com

1.4. Emergency Telephone Number

Emergency Number : 215-945-5600

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US classification

Not classified

2.2. Label Elements

GHS-US Labeling

No labeling applicable

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. May cause mechanical abrasion/irritation. This product is physiologically inert in its current massive form and poses no physical or health hazards under normal conditions of use. If the end user generates dust by processing the material (i.e. cutting, grinding, etc.) the dust and particles generated pose a variety of health hazards. The information contained in this document is based on the health hazards if the product is processed downstream and dust or fine particles are generated.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Natural Sand and Gravel	(CAS No) N/A	<= 70	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Quartz	(CAS No) 14808-60-7	<= 30	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Cement, portland, chemicals	(CAS No) 65997-15-1	30	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335
Calcium sulfate	(CAS No) 7778-18-9	1	Skin Irrit. 2, H315 Eye Dam. 1, H318
Gypsum (Ca(SO ₄).2H ₂ O)	(CAS No) 13397-24-5	1	Not classified
Calcium oxide	(CAS No) 1305-78-8	< 1	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402
Magnesium oxide (MgO)	(CAS No) 1309-48-4	< 1	Not classified

Precast Concrete

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According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

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

Symptoms/Injuries: Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/Injuries After Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use. Prolonged inhalation of dust may cause respiratory irritation. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss.

Symptoms/Injuries After Skin Contact: Direct contact may cause irritation by mechanical abrasion. Dust may cause irritation or an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Dust may cause eye damage.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: None expected under normal conditions of use. If dust is generated, repeated exposure through inhalation may cause cancer or lung disease. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire. Water spray, dry chemical, foam, carbon dioxide (CO₂).

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use firefighting measures appropriate for the surrounding fire. Do not breathe fumes from fires or vapors from decomposition.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Do not breathe dust.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid generating dust. Avoid prolonged contact with eyes, skin and clothing. Do not breathe dust.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

Precast Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Recover the product by vacuuming, shoveling or sweeping. Utilize a dust suppressant and proper PPE when removing mechanically. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Cutting, crushing or grinding concrete or other crystalline silica-bearing materials will release respirable crystalline silica. Use all appropriate measures of dust control or suppression, and Personal Protective Equipment (PPE) described in Section 8 below. Where excessive dust may result, use approved respiratory protection equipment.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing dust.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Products: Strong acids, strong bases, strong oxidizers. Hydrofluoric acid.

7.3. Specific End Use(s)

Concrete products are used in a wide variety of civil engineering projects.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Quartz (14808-60-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³ (respirable fraction)
USA ACGIH	ACGIH chemical category	A2 - Suspected Human Carcinogen
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.05 mg/m ³ (respirable dust)
USA IDLH	US IDLH (mg/m ³)	50 mg/m ³ (respirable dust)
USA OSHA	OSHA PEL (STEL) (mg/m ³)	250 mppcf/%SiO ₂ +5, 10mg/m ³ /%SiO ₂ +2
Cement, portland, chemicals (65997-15-1)		
USA ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
USA IDLH	US IDLH (mg/m ³)	5000 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Calcium sulfate (7778-18-9)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Gypsum (Ca(SO ₄).2H ₂ O) (13397-24-5)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)

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Calcium oxide (1305-78-8)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	2 mg/m ³
USA IDLH	US IDLH (mg/m ³)	25 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
Magnesium oxide (MgO) (1309-48-4)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA IDLH	US IDLH (mg/m ³)	750 mg/m ³ (fume)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (fume, total particulate)

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate ventilation to minimize dust concentrations. Avoid creating or spreading dust. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles.



Materials for Protective Clothing

Hand Protection

: Wear suitable protective clothing.

Eye Protection

: Wear protective gloves.

Skin and Body Protection

: In case of excessive dust production, safety goggles are recommended.

Respiratory Protection

: Wear suitable protective clothing.

: The following applies to the product if it is cut, sanded or altered in such a way that excessive and/or significant particulates and/or dusts may be generated: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Light grey to brown solid material
Odor	: Odorless
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: No data available
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density	: No data available
Specific Gravity	: 2.61
Solubility	: No data available
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available

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9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, and incompatible materials.
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers. Hydrofluoric acid.
- 10.6. Hazardous Decomposition Products:** Crystalline silica (quartz) will dissolve in hydrofluoric acid and produce a corrosive gas – silicon tetrafluoride. Calcium oxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg
Calcium sulfate (7778-18-9)	
LD50 Oral Rat	> 3000 mg/kg
Calcium oxide (1305-78-8)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rabbit	> 2500 mg/kg

Skin Corrosion/Irritation: Not classified.

Serious Eye Damage/Irritation: Not classified.

Respiratory or Skin Sensitization: Not classified.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified.

Quartz (14808-60-7)	
IARC group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified.

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use. Prolonged inhalation of dust may cause respiratory irritation. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss.

Symptoms/Injuries After Skin Contact: Direct contact may cause irritation by mechanical abrasion. Dust may cause irritation or an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Dust may cause eye damage.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: None expected under normal conditions of use. If dust is generated, repeated exposure through inhalation may cause cancer or lung disease. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Not classified.

Calcium sulfate (7778-18-9)	
LC50 Fish 1	2980 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC 50 Fish 2	> 1970 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Calcium oxide (1305-78-8)	
LC50 Fish 1	50.6 mg/l

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12.2. Persistence and Degradability

Precast Concrete	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Precast Concrete	
Bioaccumulative Potential	Not established.
Calcium oxide (1305-78-8)	
BCF fish 1	(no bioaccumulation)

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Ecology – Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

Quartz (14808-60-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Cement, portland, chemicals (65997-15-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Calcium sulfate (7778-18-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Calcium oxide (1305-78-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Magnesium oxide (MgO) (1309-48-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2 US State Regulations

Quartz (14808-60-7)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
Quartz (14808-60-7)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) List	
Cement, portland, chemicals (65997-15-1)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) List	
Calcium sulfate (7778-18-9)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) List	
Gypsum (Ca(SO₄).2H₂O) (13397-24-5)	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) List	
Calcium oxide (1305-78-8)	
U.S. - Massachusetts - Right To Know List	

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U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Magnesium oxide (MgO) (1309-48-4)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 02/02/2016

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H335	May cause respiratory irritation
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)



CEMENT & CONCRETE PRODUCTS™

C6: Portland Cement Based Concrete Products

SAFETY DATA SHEET

(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30305
Revision: Nov-16
SDS C6

Emergency Telephone Number
(770) 216-9580
Information Telephone Number
(770) 216-9580

QUIKRETE® Product Name	Item #(s)
Fast-Setting Concrete Mix	1004-50, -60
All-Star Fast Setting Concrete Mix	1004-50
Commercial Grade FastSet™ Concrete Mix	1004-51
Post Haste	1004-65
Q-MAX Pro Concrete Mix	1004-81
All-Star 10 Minute Instant Post Mix	1005-51
FastSet™ Water-Stop Cement – Zip & Mix	1121-15
Commercial Grade FastSet™ Cement	1124-92
Hydraulic Water Stop	1126-00
Concrete Resurfacer	1131-40
Multipurpose Concrete Resurfacer	1131-45
Bonded Topping Mix	1133-04, 1018, 1017
FastSet™ Stucco Patch	1139-92
Architectural Finish	1220-55
Quick Setting Cement	1240-00
Commercial Grade FastSet™ Repair Mortar – Zip And Mix	1241
Commercial Grade FastSet™ Repair Mortar	1241-60
Rapid Road Repair	1242-50, -51, -52, -80
Polymer Modified Structural Concrete – Extended Set	1242-85
Rapid Hardening Sand Mix	1243-50
Commercial Grade FastSet™ Polymer Modified DOT Mix	1244-54
Commercial Grade FastSet™ DOT Mix	1244-56
Commercial Grade FastSet™ DOT Deck Repair – Polymer Modified	1244-58
Commercial Grade FastSet™ DOT Mix – Extended	1244-81
Exterior use Anchoring Cement	1245-80, -81
Commercial Grade FastSet™ Non-Shrink Grout	1585-09, -20, -50
Commercial Grade FastSet™ All-Crete	1585-59
Mix 801 FastSet™ DOT PM Overlay	NR801552/80801552

**CEMENT & CONCRETE PRODUCTS™**

Product Use: Portland cement-based, rapid-setting materials for general construction or repair.

SECTION II - HAZARD IDENTIFICATION

Hazard-determining components of labeling: Silica, Portland cement

2.1 Classification of the substance or mixture

Carcinogen – Category 1A

Skin Corrosion – Category 1B

Skin Sensitization – Category 1B

Specific Target Organ Toxicity Repeat Exposure – Category 1

Specific Target Organ Toxicity: Single Exposure – Category 3

2.2a Signal word DANGER!

2.2b Hazard Statements

May cause cancer through chronic inhalation

Causes severe skin burns and serious eye damage

May cause an allergic skin reaction

Causes damage to lungs through prolonged or repeated inhalation

May cause respiratory irritation

2.2c Pictograms



2.2d Precautionary statements

Do not handle until all safety precautions have been read and understood.

Wear impervious gloves, such as nitrile. Wear eye protection, and protective clothing.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Use only in a well-ventilated area.

Do not breathe dust.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

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

If on skin (or hair): Remove immediately all contaminated clothing and wash before re-use. Rinse skin or hair with water.

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If significant skin irritation or rash occurs: get medical advice or attention.

Immediately seek medical advice or attention if symptoms are significant or persist.

Store in a well-ventilated place. Keep container tightly closed.

Dispose of contents/containers in accordance with all regulations.

2.3 Additional Information

The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Therefore precautions must be taken to prevent all contact with Portland cement. Cement burns can become worse even after contact has ended. If there is contact with this product, immediately remove all product from body and thoroughly rinse with water. If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr(VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

2.3a HNOC – Hazards not otherwise classified: Not applicable

2.3b Unknown Acute Toxicity: None

2.3C WHMIS Classification

Class D2B – Skin/Eye Irritant

Class D2A – Chronic Toxic Effects – Carcinogen

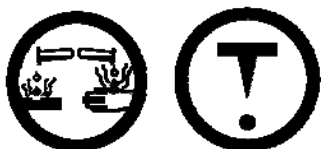
Class E – Corrosive Material

2.3d Label Elements According To WHMIS



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Hazard Symbols



Signal Word

DANGER!

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<u>Hazardous Components</u>	<u>CAS No.</u>	<u>% by Weight</u>
Sand, Silica, Quartz	14808-60-7	40-70*
Portland Cement	65997 15 1	10-30*
Calcium Sulfoaluminate	65997-16-2	10-30*
Calcium Aluminate	12042-68-1	5-10*
Calcium Sulfate	10101-41-4	1-5*
Limestone Dust	01317-65-3	1-5*

*The concentrations ranges are provided due to batch-to-batch variability.
None of the constituents of this material are of unknown toxicity.

SECTION IV – FIRST AID MEASURES

4.1 Description of the first-aid measures

General information:

After inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Wash skin with cool water and pH-neutral soap or a mild detergent. If significant skin irritation or rash occurs: get medical advice or attention.

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

After swallowing: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated inhalation. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns.

**CEMENT & CONCRETE PRODUCTS™**

Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Therefore precautions must be taken to prevent all contact with Portland cement. Cement burns can become worse even after contact has ended. If there is contact with this product, immediately remove all product from body and thoroughly rinse with water. If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr(VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

4.3 Indication of immediate medical attention and special treatment needed:
Immediately seek medical advice or attention if symptoms are significant or persist.

SECTION V - FIRE FIGHTING MEASURES

5.1 Flammability of the Product: Non-flammable and non-combustible

5.2 Suitable extinguishing agents: Treat for surrounding material

5.3 Special hazards arising from the substance or mixture: None

5.3a Products of Combustion: None

5.3b Explosion Hazards in Presence of Various Substances: Non-explosive in presence of shocks



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SECTION VI – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See section VIII). Keep unprotected persons away.

6.2 Methods and material for containment and cleaning up:

Do not allow to enter sewers/ surface or ground water. Dispose of unwanted materials and containers properly in accordance with all regulations.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

7.1 Handling

Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended. Wear appropriate PPE (See section 8). Do not mix with other chemical products, except as indicated by the manufacturer. Do not get in eyes, on skin or clothing. Good housekeeping is important to prevent accumulation of dust.

7.2 Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep out of the reach of children. Keep container tightly closed and prevent exposure to humidity. Do not allow water to contact the product until time of use to preserve product utility.

SECTION VIII – EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION

8.1 Components with limit values that require monitoring at the workplace:

Hazardous Components	CAS No.	PEL (OSHA) mg/M ³	TLV (ACGIH) mg/M ³
Silica Sand, crystalline	14808-60-7	0.1	0.025 (resp)
Portland Cement	65997-15-1	5 (resp) 15 (total)	10 (resp)
Calcium Sulfoaluminate	65997-16-2	15	10
Calcium Aluminate	12042-68-1	5 (resp) 15 (total)	1 (resp)
Calcium Sulfate	10101-41-4	5 (resp) 15 (total)	10 (resp)
Limestone Dust	01317-65-3	5 (resp) 15 (total)	10 (resp)

8.2 Exposure Controls

Use ventilation adequate to keep exposures below recommended exposure limits.

8.3 General protective and hygienic measures


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Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

8.3a Personal protective equipment

Protection of hands:

Wear gloves of adequate length to offer appropriate skin protection from splashes. Nitrile, Butyl and PVC gloves have been found to offer adequate protection for incidental contact. Precautions must be observed because burns occur with little warning -- little heat is sensed.

Eye protection:

Wear approved eye protection properly fitted dust- or splash-proof chemical safety glasses.

Respiratory protection:

A NIOSH-approved dust mask or filtering face piece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional, following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

General Information

Appearance	Form: Granular Solid Color: Gray to gray-brown colored Odor: None
pH-value at 20°C (68 °F):	13 (10%)
Boiling point/Boiling range:	Not applicable
Flash point:	Not applicable
Auto igniting:	Product is not self-igniting
Vapor pressure at 21°C (70°F)	Not available
Density at 25°C (77 °F):	2.6 to 3.15

Solubility in / Miscibility with

Water:	Insoluble
VOC content:	0 g/L VOC

SECTION X – STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal storage conditions. Keep in dry storage.

**CEMENT & CONCRETE PRODUCTS™****10.3 Possibility of hazardous reaction**

No dangerous reaction known under conditions of normal use.

10.4 Thermal decomposition / conditions to be avoided

No decomposition if used according to specifications.

10.5 Incompatible materials

Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires

10.6 Hazardous Decomposition or By-products

Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

SECTION XI – TOXICOLOGICAL INFORMATION

11.1 Exposure Routes: Skin contact, skin adsorption, eye contact, inhalation, or ingestion.

11.2 Symptoms related to physical/chemical/toxicological characteristics:

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated exposure. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: Causes skin irritation. Handling can cause dry skin, discomfort, irritation, and dermatitis. May cause sensitization by skin contact. Product becomes extremely alkaline when exposed to moisture, and can cause alkali burns and affect the mucous membranes.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: Harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

11.3 Delayed, immediate and chronic effects of short-term and long-term exposure**Short Term**

Skin Corrosion/Irritation: Causes severe skin burns.

Serious Eye Damage/Irritation: Causes severe eye damage.

Respiratory Sensitization: Not available

Skin Sensitization: May cause an allergic skin reaction.

Specific Target Organ Toxicity-Single Exposure: (Category 3) may cause respiratory irritation.

Aspiration Hazard: Not available

Long Term

Carcinogenicity: May cause cancer through chronic inhalation.

Germ Cell Mutagenicity: Not available

Reproductive Toxicity: Not available



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Specific Target Organ Toxicity- Repeated Exposure: (Category 1) Causes damage to lungs through prolonged/repeated exposure

Synergistic/Antagonistic Effects: Not available.

SECTION XII – ECOLOGICAL INFORMATION

12.1 Ecotoxicity

May cause long-term adverse effects to the aquatic environment. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or un-neutralized

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential:

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

12.5 Other Adverse Effects

No further relevant information available.

SECTION XIII – DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Method

The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state and federal regulations.

13.2 Other disposal considerations

Uncleaned packaging

Recommendation: Disposal must be made in accordance with local, state and federal regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION XIV – TRANSPORT INFORMATION

	DOT (U.S.)	TDG (Canada)
UN-Number	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated
Transport Hazard Class(es)	Not Regulated	Not Regulated
Packing Group (if applicable)	Not Regulated	Not Regulated

**CEMENT & CONCRETE PRODUCTS™****14.1 Environmental hazards:**

Not Available

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

Not available

14.3 Special precautions for user

Do not handle until all safety precautions have been read and understood.

SECTION XV – OTHER REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislations specific for the chemical**Canada**

WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

15.2 US Federal Information**SARA 302/311/312/313 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302, 311, 312 or 313.

RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.

Emergency Planning and Community Right to Know Act (SARA Title III): Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.

FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).

NTP: Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as Known to be a Human Carcinogen.

OSHA Carcinogen: Crystalline silica (quartz) is not listed.

15.3 State Right to Know Laws


CEMENT & CONCRETE PRODUCTS™
California Prop. 65 Components

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

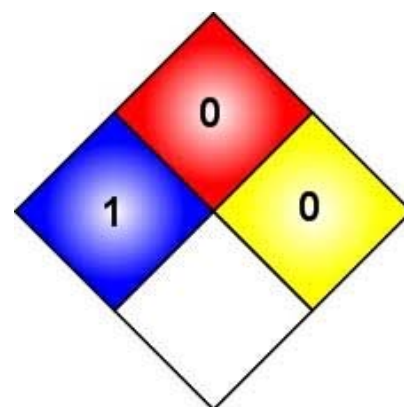
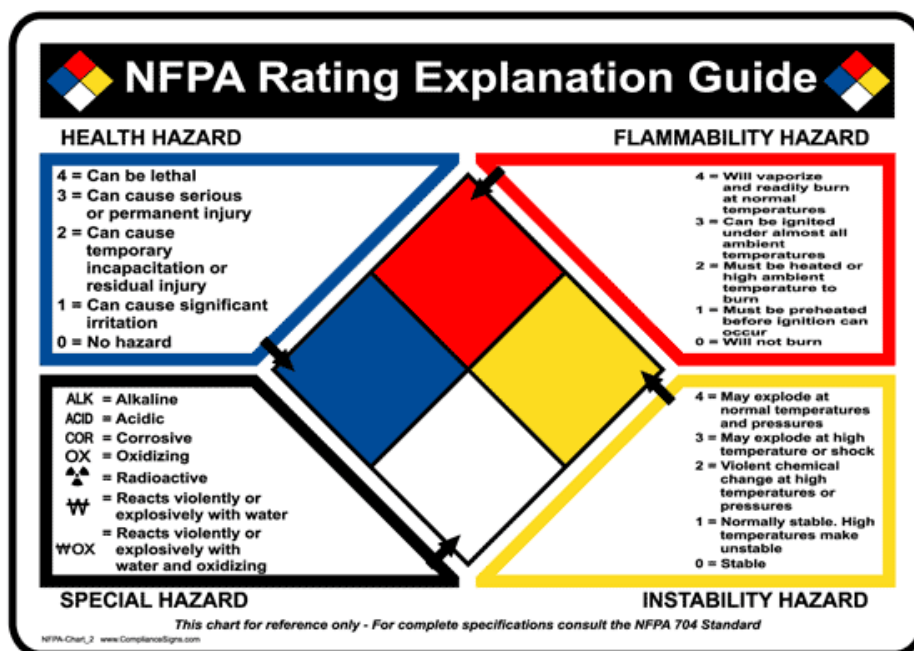
California Inhalation Reference Exposure Level (REL): California established a chronic REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is "toxic" for purposes of the Massachusetts Toxic Use Reduction Act.

15.4 Global Inventories

DSL All components of this product are on the Canadian DSL list.

TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7. All constituents are listed in the TSCA inventory.

15.5 NFPA Ratings

SECTION XVI – OTHER INFORMATION

Last Updated: November 29, 2016

**CEMENT & CONCRETE PRODUCTS™**

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

Prepared by

The QUIKRETE® Companies
Phone (800) 282-5828
www.QUIKRETE.com

End of SDS



Safety Data Sheet

Material Name: Diesel Fuel, All Types

SDS No. 9909
US GHS

Synonyms: Ultra Low Sulfur Diesel; Low Sulfur Diesel; No. 2 Diesel; Motor Vehicle Diesel Fuel; Non-Road Diesel Fuel; Locomotive/Marine Diesel Fuel

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

Manufacturer Information

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

Phone: 732-750-6000 Corporate EHS
Emergency # 800-424-9300 CHEMTREC
www.hess.com (Environment, Health, Safety Internet Website)

*** Section 2 - Hazards Identification ***

GHS Classification:

Flammable Liquids - Category 3
Skin Corrosion/Irritation – Category 2
Germ Cell Mutagenicity – Category 2
Carcinogenicity - Category 2
Specific Target Organ Toxicity (Single Exposure) - Category 3 (respiratory irritation, narcosis)
Aspiration Hazard – Category 1
Hazardous to the Aquatic Environment, Acute Hazard – Category 3

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

DANGER

Hazard Statements

Flammable liquid and vapor.
Causes skin irritation.
Suspected of causing genetic defects.
Suspected of causing cancer.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.
Harmful to aquatic life.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking
Keep container tightly closed.
Ground/bond container and receiving equipment.

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Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Wash hands and forearms thoroughly after handling.
 Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Avoid breathing fume/mist/vapours/spray.

Response

In case of fire: Use water spray, fog or foam to extinguish.
 IF ON SKIN (or hair): Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
 If swallowed: Immediately call a poison center or doctor. Do NOT induce vomiting.
 IF exposed or concerned: Get medical advice/attention.

Storage

Store in a well-ventilated place. Keep cool.
 Keep container tightly closed.
 Store locked up.

Disposal

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

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

CAS #	Component	Percent
68476-34-6	Fuels, diesel, no. 2	100
91-20-3	Naphthalene	<0.1

A complex mixture of hydrocarbons with carbon numbers in the range C9 and higher.

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

First Aid: Eyes

In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

First Aid: Skin

Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or with waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and the area of the body burned.

First Aid: Ingestion

DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

Safety Data Sheet

Material Name: Diesel Fuel, All Types

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First Aid: Inhalation

Remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

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

General Fire Hazards

See Section 9 for Flammability Properties.

Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

Extinguishing Media

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO₂, water spray, fire fighting foam, and other gaseous agents.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

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

Recovery and Neutralization

Carefully contain and stop the source of the spill, if safe to do so.

Materials and Methods for Clean-Up

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Caution, flammable vapors may accumulate in closed containers.

Emergency Measures

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

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Personal Precautions and Protective Equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental Precautions

Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Prevention of Secondary Hazards

None

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

Handling Procedures

Handle as a combustible liquid. Keep away from heat, sparks, excessive temperatures and open flame! No smoking or open flame in storage, use or handling areas. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

Storage Procedures

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

Incompatibilities

Keep away from strong oxidizers.

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

Component Exposure Limits

Fuels, diesel, no. 2 (68476-34-6)

ACGIH: 100 mg/m3 TWA (inhalable fraction and vapor, as total hydrocarbons, listed under Diesel fuel)
Skin - potential significant contribution to overall exposure by the cutaneous route (listed under Diesel fuel)

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Naphthalene (91-20-3)

ACGIH: 10 ppm TWA
15 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 10 ppm TWA; 50 mg/m³ TWA
NIOSH: 10 ppm TWA; 50 mg/m³ TWA
15 ppm STEL; 75 mg/m³ STEL

Engineering Measures

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

Personal Protective Equipment: Respiratory

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

Personal Protective Equipment: Hands

Gloves constructed of nitrile, neoprene, or PVC are recommended.

Personal Protective Equipment: Eyes

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

Personal Protective Equipment: Skin and Body

Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

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

Appearance:	Clear, straw-yellow.	Odor:	Mild, petroleum distillate odor
Physical State:	Liquid	pH:	ND
Vapor Pressure:	0.009 psia @ 70 °F (21 °C)	Vapor Density:	>1.0
Boiling Point:	320 to 690 °F (160 to 366 °C)	Melting Point:	ND
Solubility (H₂O):	Negligible	Specific Gravity:	0.83-0.876 @ 60°F (16°C)
Evaporation Rate:	Slow; varies with conditions	VOC:	ND
Percent Volatile:	100%	Octanol/H₂O Coeff.:	ND
Flash Point:	>125 °F (>52 °C) minimum	Flash Point Method:	PMCC
Upper Flammability Limit (UFL):	7.5	Lower Flammability Limit (LFL):	0.6
Burning Rate:	ND	Auto Ignition:	494°F (257°C)

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

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Safety Data Sheet

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Conditions to Avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

Incompatible Products

Keep away from strong oxidizers.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

A: General Product Information

Harmful if swallowed.

B: Component Analysis - LD50/LC50

Naphthalene (91-20-3)

Inhalation LC50 Rat >340 mg/m³ 1 h; Oral LD50 Rat 490 mg/kg; Dermal LD50 Rat >2500 mg/kg; Dermal LD50 Rabbit >20 g/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Contact with eyes may cause mild irritation.

Potential Health Effects: Ingestion

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Potential Health Effects: Inhalation

Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

This material has been positive in a mutagenicity study.

Carcinogenicity

A: General Product Information

Suspected of causing cancer.

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Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

B: Component Carcinogenicity

Fuels, diesel, no. 2 (68476-34-6)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (listed under Diesel fuel)

Naphthalene (91-20-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)

IARC: Monograph 82 [2002] (Group 2B (possibly carcinogenic to humans))

Reproductive Toxicity

This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

This product is not reported to have any specific target organ general toxicity single exposure effects.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ general toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard

The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Fuels, diesel, no. 2 (68476-34-6)

Test & Species

96 Hr LC50 Pimephales promelas

35 mg/L [flow-through]

Conditions

Naphthalene (91-20-3)

Test & Species

96 Hr LC50 Pimephales promelas

5.74-6.44 mg/L [flow-through]

Conditions

96 Hr LC50 Oncorhynchus mykiss

1.6 mg/L [flow-through]

96 Hr LC50 Oncorhynchus mykiss

0.91-2.82 mg/L [static]

96 Hr LC50 Pimephales promelas

1.99 mg/L [static]

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96 Hr LC50 <i>Lepomis macrochirus</i>	31.0265 mg/L [static]
72 Hr EC50 <i>Skeletonema costatum</i>	0.4 mg/L
48 Hr LC50 <i>Daphnia magna</i>	2.16 mg/L
48 Hr EC50 <i>Daphnia magna</i>	1.96 mg/L [Flow through]
48 Hr EC50 <i>Daphnia magna</i>	1.09 - 3.4 mg/L [Static]

Persistence/Degradability

No information available.

Bioaccumulation

No information available.

Mobility in Soil

No information available.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

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

* * * Section 14 - Transportation Information * * *

DOT Information

Shipping Name: Diesel Fuel

NA #: 1993 **Hazard Class:** 3 **Packing Group:** III

Placard:



* * * Section 15 - Regulatory Information * * *

Regulatory Information

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Naphthalene (91-20-3)

CERCLA: 100 lb final RQ; 45.4 kg final RQ

SARA Section 311/312 – Hazard Classes

Acute Health
X

Chronic Health
X

Fire
X

Sudden Release of Pressure
--

Reactive
--

Safety Data Sheet

Material Name: Diesel Fuel, All Types

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SARA SECTION 313 - SUPPLIER NOTIFICATION

This product may contain listed chemicals below the de minimis levels which therefore are not subject to the supplier notification requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372. If you may be required to report releases of chemicals listed in 40 CFR 372.28, you may contact Hess Corporate Safety if you require additional information regarding this product.

State Regulations

Component Analysis - State

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

Component	CAS	CA	MA	MN	NJ	PA	RI
Fuels, diesel, no. 2	68476-34-6	No	No	No	Yes	No	No
Naphthalene	91-20-3	Yes	Yes	Yes	Yes	Yes	No

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

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

Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Fuels, diesel, no. 2	68476-34-6	Yes	DSL	EINECS
Naphthalene	91-20-3	Yes	DSL	EINECS

* * * Section 16 - Other Information * * *

NFPA® Hazard Rating

Health 1
Fire 2
Reactivity 0



HMIS® Hazard Rating

Health 1* Slight
Fire 2 Moderate
Physical 0 Minimal
*Chronic

Safety Data Sheet

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Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

Literature References

None

Other Information

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

End of Sheet

Product Name: CAT DEO 15W-40 (DIESEL ENGINE OIL)

Revision Date: 12Jul2005

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MATERIAL SAFETY DATA SHEET

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: CAT DEO 15W-40 (DIESEL ENGINE OIL)**Product Description:** Base Oil and Additives**Product Code:** 478669-00, 97X127**Intended Use:** Engine oil

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION

3225 GALLOWES RD.

FAIRFAX, VA. 22037 USA

24 Hour Health Emergency 609-737-4411**Transportation Emergency Phone** 800-424-9300**ExxonMobil Transportation No.** 281-834-3296**MSDS Requests** 713-613-3661**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 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

Excessive exposure may result in eye, skin, or respiratory irritation. Low order of toxicity. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID: Health: 0 Flammability: 1 Reactivity: 0

HMS 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

Product Name: CAT DEO 15W-40 (DIESEL ENGINE OIL)

Revision Date: 12Jul2005

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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: Incomplete combustion products, Aldehydes, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >215°C (419°F) [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. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National

Product Name: CAT DEO 15W-40 (DIESEL ENGINE OIL)

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Response Center can be reached at (800)424-8802.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Confine the spill immediately with booms. Stop leak if you can do it without risk. 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.

Static Accumulator: This material is a static accumulator.

STORAGE

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.

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

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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. Work conditions can greatly effect glove durability; 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.

GENERAL INFORMATION

Physical State: Liquid

Color: Amber

Odor: Characteristic

Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.826

Flash Point [Method]: >215°C (419°F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

Boiling Point / Range: > 316°C (600°F)

Vapor Density (Air = 1): N/D

Vapor Pressure: [N/D at 20 °C]

Product Name: CAT DEO 15W-40 (DIESEL ENGINE OIL)

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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: 115.5 cSt (115.5 mm²/sec) at 40 °C | 15 cSt (15 mm²/sec) at 100°C

Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION

Freezing Point: N/D

Melting Point: N/A

Pour Point: < -27°C (-17°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 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 2000 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.

Product Name: CAT DEO 15W-40 (DIESEL ENGINE OIL)

Revision Date: 12Jul2005

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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	--REGULATORY LISTS SEARCHED--	5 = IARC 2B
2 = NTP SUS	3 = IARC 1	6 = OSHA CARC
	4 = IARC 2A	

SECTION 12	ECOLOGICAL INFORMATION
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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

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13	DISPOSAL CONSIDERATIONS
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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

Product Name: CAT DEO 15W-40 (DIESEL ENGINE OIL)

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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 PRECAUTIONARY LABEL TEXT: Empty containers may retain residue 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.

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: TSCA

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 DITHIOPHOSPHATE	68649-42-3	< 2.5%

The Following Ingredients are Cited on the Lists Below:*

Chemical Name	CAS Number	List Citations
PHOSPHORUS	7723-14-0	1, 4

Product Name: CAT DEO 15W-40 (DIESEL ENGINE OIL)

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ZINC DITHIOPHOSPHATE	68649-42-3	13, 15, 17
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--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

* 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.

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: 0, 0, 0, 0, 0, 0

PPEC: A

DGN: 2026963XUS (543511)

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Product Name: MOBIL 1 10W-30

Revision Date: 23Nov2004

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MATERIAL SAFETY DATA SHEET

SECTION 1**PRODUCT AND COMPANY IDENTIFICATION****PRODUCT****Product Name:** MOBIL 1 10W-30**Product Description:** Synthetic Base Stocks and Additives**Product Code:** 481176-00, 972273**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

MSDS Requests

713-613-3661

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 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

Product Name: MOBIL 1 10W-30

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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, Sulfur oxides, Oxides of carbon, Incomplete combustion products, Aldehydes

FLAMMABILITY PROPERTIES

Flash Point [Method]: 232°C (450°F) [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. U.S. regulations require reporting releases of this material to the environment which exceed the 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.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

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Water Spill: Confine the spill immediately with booms. Stop leak if you can do it without risk. 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

Prevent entry into waterways, sewers, basements or confined areas. Large Spills: Dike far ahead of liquid spill for later recovery and disposal.

SECTION 7

HANDLING AND STORAGE

HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is a static accumulator.

STORAGE

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.

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

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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. Work conditions can greatly effect glove durability; 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.

GENERAL INFORMATION

Physical State: Liquid

Color: Amber

Odor: Characteristic

Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.81

Flash Point [Method]: 232°C (450°F) [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): > 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): N/D

Solubility in Water: Negligible

Viscosity: 67.4 cSt (67.4 mm²/sec) at 40 °C | 10.7 cSt (10.7 mm²/sec) at 100°C

Product Name: MOBIL 1 10W-30

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Oxidizing Properties: See Sections 3, 15, 16.**OTHER INFORMATION****Freezing Point:** N/D**Melting Point:** N/A**Pour Point:** -48°C (-54°F)**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**

<u>Route of Exposure</u>	<u>Conclusion / Remarks</u>
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 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 2000 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:

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Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC

3 = IARC 1

5 = IARC 2B

2 = NTP SUS

4 = IARC 2A

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.

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 PRECAUTIONARY LABEL TEXT: Empty containers may retain residue 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

Product Name: MOBIL 1 10W-30

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reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

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: AICS, DSL, EINECS, ENCS, TSCA

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:* None.

--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

* 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.

SECTION 16**OTHER INFORMATION**

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Product Name: MOBIL 1 10W-30

Revision Date: 23Nov2004

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No revision information is available.

Internal Use Only

MHC: 0, 0, 0, 0, 0, 0

PPEC: A

DGN: 7004362XUS (1008393)

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SAFETY DATA SHEET

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product: Fiber Expansion Joint Filler **Part Number:** 1103360
Manufacturer: W. R. Meadows®, Inc. **Address:** 300 Industrial Drive
 Hampshire, Illinois 60140
Telephone: (847) 214-2100 **In case of emergency, dial (800) 424-9300 (CHEMTREC)**
Revision Date: 9/9/2014
Product Use: Expansion Joint in Concrete Construction

SECTION 2: HAZARDS IDENTIFICATION/EXPOSURE LIMITS

HMIS
| Health | 1 | Product is classified as non-hazardous per OSHA 1910.1200. Fiber Expansion Joint is defined by OSHA as an "article." A manufactured item that is formed to a specific shape or design during manufacture that does not release or result in exposure to a hazardous chemical under normal use conditions.
| Flammability | 1 |
| Reactivity | 0 |
| Personal Protection | |

SECTION 3: HAZARDS COMPONENTS

Chemical Name:	CAS Number	% by Weight	SARA 313	Vapor Pressure (mm Hg@20°C)	LEL @24°C
1. Petroleum Asphalt	8052-42-4	35-40	No	N/A	N/A

Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1966 (SARA) and 40 CFR Part 372, chemicals listed on the 313 List (40 CFR Part 373.65) are identified under the heading "SARA 313." N/A = Not Applicable

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Flush eyes with water to remove fibers
SKIN CONTACT: Flush with water to remove fibers. Wash affected areas with soap and water if available
INHALATION: Not expected to be an exposure route. If a dust exposure occurs, remove victim from exposure source and treat symptomatically.
INGESTION: Not expected to be an exposure source.

SECTION 5: FIRE AND EXPLOSIVES HAZARDS

FLASHPOINT: >400° degrees F
EXTINGUISHING MEDIA: Water fog, foam, dry chemical.
CHEMICAL/COMBUSTION HAZARDS: Stacked material will retain heat and has the potential to reignite.
PRECAUTIONS/PERSONAL PROTECTIVE EQUIPMENT: Avoid smoke inhalation. Use appropriate respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: Not applicable. Product is a solid.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES: Avoid direct contact.
SAFE STORAGE: None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name:	OSHA				ACGIH			
	PEL	PEL/CEILING	PEL/STEL	SKIN	TLV	TLV/CEILING	TLV/STEL	SKIN
1. Petroleum Asphalt	5 mg/m ³ *	N/E	N/E	No	0.5 mg/m ³ *	N/E	N/E	N/E

ENGINEERING CONTROLS: None required under normal use conditions.
PERSONAL PROTECTIVE EQUIPMENT: Safety glasses, chemical-resistant gloves. N/E = Not Established *: Asphalt Fumes

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: N/A	VAPOR DENSITY: N/A	% VOLATILE BY VOLUME: N/A
EVAPORATION RATE: N/A	pH LEVEL: N/A	% VOLATILE BY WEIGHT: N/A
WEIGHT PER GALLON: N/A	PRODUCT APPEARANCE: Black Board	VOC CONTENT: N/A

SECTION 10: STABILITY/REACTIVITY

STABILITY: Stable. **HAZARDOUS POLYMERIZATION:** Will not occur.
CONDITIONS AND MATERIALS TO AVOID: None recognized.
HAZARDOUS DECOMPOSITION PRODUCTS: None recognized.

SECTION 11: TOXICOLOGICAL INFORMATION

EYE CONTACT: Direct contact may cause mild irritation.
SKIN CONTACT: Direct contact may cause slight skin irritation.
INHALATION: Not anticipated to be an exposure route.
INGESTION: Not anticipated to be an exposure route.
SIGNS AND SYMPTOMS: Symptoms of eye irritation include tearing, reddening, and swelling. Symptoms of skin irritation include redness and swelling. Gastrointestinal irritation symptoms include nausea, vomiting, and abdominal discomfort.
AGGRAVATED MEDICAL CONDITIONS: None recognized.
OTHER HEALTH EFFECTS: Wood dust is listed by the IARC as a human carcinogen (Group 1)

SAFETY DATA SHEET

Date of Preparation: 9/9/14		Page 2 of 2	1103360
SECTION 12: ECOLOGICAL INFORMATION			
ECOTOXICITY: N/E	DEGRADABILITY: N/E	BIOACCUMULATIVE POTENTIAL: N/E	
SOIL MOBILITY: N/E	OTHER ADVERSE EFFECTS: None Recognized		
SECTION 13: WASTE DISPOSAL INFORMATION			
WASTE DISPOSAL INFORMATION: Product is classified as a non-hazardous waste.			
SECTION 14: TRANSPORTATION INFORMATION			
HAZARDOUS/NON-HAZARDOUS MATERIAL: Not regulated by DOT.			
UN NUMBER: None	HAZARD CLASS: N/A	PACKING GROUP: N/A	
UN PROPER SHIPPING NAME: N/A			
ENVIRONMENTAL HAZARDS: None recognized.			
BULK TRANSPORTATION INFORMATION: None.			
SPECIAL PRECAUTIONS: None.			
SECTION 15: REGULATORY INFORMATION			
OTHER REGULATORY CONSIDERATIONS: None recognized.			
SECTION 16: OTHER INFORMATION			
PREPARATION DATE:	9/9/2014		
PREPARED BY:	Dave Carey		

The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. We assume no responsibility for injury from the use of this product described herein.

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ITW Permatex
 10 Columbus Blvd.
 Hartford, CT 06106 USA
 Telephone: 1-87-Permatex
 (877) 376-2839
 Emergency: 800-255-3924 (ChemTel)
 International Emergency: 00+ 1+ 813-248-0585

Material Safety Data Sheet

1. PRODUCT IDENTIFICATION

Product Name: FAST ORANGE PUMICE LOTION 1 GAL
 Item No: 25219
 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
ETHOXYLATED C11-C16 ALCOHOL 127036-24-2	<5	Not listed	Not listed
D-LIMONENE 5989-27-5	0.1-1.0	Not listed	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 conditions of use.

Component	Weight%	NTP	ACGIH Carcinogens	IARC Carcinogen
D-LIMONENE 5989-27-5	0.1-1.0	male rat-clear evidence; female rat- no evidence; male mice-no evidence; female mice-no evidence		Group 3 Monograph 73, 1999

Aggravated Medical Condition: None known.

4. FIRST AID MEASURES

Ingestion: If swallowed, do not induce vomiting - seek medical advice.
 Inhalation: Immediate medical attention is not required.
 Skin Contact: Flush with water.
 Eye Contact: Flush with water. If eye irritation persists, get medical attention.

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

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: 1.06

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

Marine Pollutant: None

15. REGULATORY INFORMATION

SARA 313 Chemicals: The following component(s) is listed as a SARA Section 313 Toxic Chemical.

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Product Name: FAST ORANGE PUMICE LOTION 1 GAL

Item No. 25219

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
Company: ITW Permatex 10 Columbus Blvd. Hartford, CT USA 06106
Telephone No.: 1-87-Permatex (877) 376-2839

Revision Date: May 17, 2013

Revision Number: 1

SAFETY DATA SHEET

ABC DRY CHEMICAL

SECTION I. Chemical Product and Company Identification

Product Name: ABC Dry Chemical Fire Extinguishant
Synonym: Multi-Purpose Dry Chemical
Manufacturer: Buckeye Fire Equipment Company
110 Kings Road
Kings Mountain, NC 28086
Telephone: 704.739.7415
Web Address: www.buckeyefire.com
Email Address: bfec@buckeyef.com
Recommended Use: Fire suppression, not for human or animal drug use.
Emergency: CHEMTREC 1.800.424.9300
Revision Date: 04/2015

SECTION II. Hazard Identification

GHS – Classification:

Eye Irritation: Class 2B
Skin Irritation: Class 3
Inhalation: Class 5

GHS Label Elements:

Hazard Symbols:



Signal Word: WARNING

Hazard Statements:

H313 May be harmful in contact with skin.
H320 Causes eye irritation
H333 May be harmful if inhaled.

Precautionary Statements:

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P234 Keep in original container.
P251 Pressurized container; do not pierce or burn, even after use
P261 Avoid breathing dust
P264 Wash hands and face thoroughly after handling
P270 Do not eat, drink, or smoke when using this product
P281 Use personal protective equipment as required
P285 In case of inadequate ventilation, wear respiratory protection
P301+322+331 If swallowed, drink 2-3 glasses of water and do not induce vomiting
302+352 If on skin, wash with soap and water
304+313+341 If inhaled, and if distress occurs, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice/attention.
305+351+338 If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do, and continue to rinse.
337+313 If eye irritation persists, get medical advice/attention.
P401+402+403 Store in original container or extinguisher in a dry, well ventilated place.

**SAFETY DATA SHEET
ABC DRY CHEMICAL****SECTION III. Composition/Information on Ingredients**

This product is a mixture.

Chemical Name	Weight %*	CAS #
Monoammonium phosphate	85	7722-76-1
Barium Sulfate	10	7727-43-7
Mica	< 3	12001-26-2
Silica	< 2	7631-86-9
Stannous octoate	< .3	301-10-0
Silicone	< .1	63148-57-2
Pigment	< .1	6358-31-2

* % is rounded to the nearest appropriate number. Values are not to be considered product specifications

SECTION IV. First Aid Measures

Eye Exposure- Flush eyes with water until pain-free. If irritation develops or persists, seek medical attention.

Skin Exposure- Wash with plenty of soap and water. If irritation develops or persists, seek medical attention.

Inhalation- Move victim to fresh air. If irritation develops or persists, seek medical attention.

Ingestion- If victim is conscious and alert, give 2-3 glasses of water to drink. Do not induce vomiting. If vomiting occurs and the victim is conscious, give additional water to further dilute the chemical. Prevent aspiration of swallowed product by laying victim on side with head lower than their waist. Seek medical attention. Do not leave victim unattended.

Medical Conditions Possibly Aggravated by Exposure- Inhalation of the product may aggravate existing chronic respiratory conditions such as asthma, emphysema, or bronchitis. Contact with the skin may aggravate an existing skin disease. Chronic overexposure may cause pneumoconiosis ("Dusty Lung" disease).

SECTION V. Firefighting Measures

Extinguishing Media: N/A. This product is an extinguishing agent. It is nonflammable and noncombustible.

Special Firefighting Procedures: N/A

Unusual Fire and Explosion Hazards: This product may decompose in fire and release oxides of carbon, potassium, and nitrogen (Refer to Section X).

Sensitivity to Mechanical Impact or Static Discharge: None

SECTION VI. Accidental Release Measures

In case of accidental release, use the appropriate respiratory protection. Clean up the product using a vacuum or wet sweep and shovel to minimize the generation of dust. Bag or drum the product for disposal. If the product is used and/or contaminated, use personal protective equipment and containment means that are appropriate for the composition of the mixture. Product should be prevented from entering waterways.

SECTION VII. Handling and Storage

Avoid eye, respiratory, and skin exposure. Use the appropriate personal protective equipment when handling. Wash thoroughly after handling (Refer to Section VIII). Product should be stored in its original container or extinguisher. When the product is contained under pressure (e.g., an extinguisher), inspect the container for rust or damage that may compromise the container integrity. Do not store the product in high humidity and do not mix with other extinguishing agents, particularly potassium bicarbonate based agents.

SAFETY DATA SHEET

ABC DRY CHEMICAL

SECTION VIII. Exposure Controls and Personal Protection

Exposure Guidelines:

	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Monoammonium phosphate	Particulates Not Otherwise Classified Total Dust- 15 mg/m ³ Respirable Fraction- 5 mg/m ³	Particulates Not Otherwise Classified Total Dust- 10 mg/m ³ Respirable Fraction- 3 mg/m ³
Barium sulfate	Particulates Not Otherwise Classified Total Dust- 15 mg/m ³ Respirable Fraction- 5 mg/m ³	Particulates Not Otherwise Classified Total Dust- 10 mg/m ³ Respirable Fraction- 3 mg/m ³
Mica	6 mg/m ³	3 mg/m ³
Silica	6 mg/m ³	10 mg/m ³
Stannous octoate	.1 mg/m ³	.1 mg/m ³
Silicone	Not Regulated	Not Regulated
Pigment	Not Regulated	Not Regulated

During the use of this product on fires, exhaust gases and products of incomplete combustion are the main respiratory hazards. In the manufacture of this product, employers and employees must use their collective judgment in determining the on-the-job settings where the use of a dust mask or respirator is prudent. The need for respiratory protection is not likely for short-term use in well-ventilated areas.

Respiratory Protection: Use an N-95 dust mask for limited exposures and use air-purifying respirators with high efficiency particulate air filters (HEPA filters) for prolonged exposures.

Eye Protection: Wear chemical goggles or full-face air-purifying respirator.

Skin Protection: Use nitrile, latex, or similar gloves and coveralls. Good personal hygiene practices are essential. After handling the product, avoid food, tobacco products, or other means of transferring the product from hand to mouth until after thoroughly washing.

SECTION IX. Physical and Chemical Properties

Appearance and Odor: Light yellow fine powder that is odorless.

Apparent Density: 0.82

Solubility: The product is coated with water repellant silicone. Not immediately soluble in water.

pH: Approximately 4 -5

Flash Point: N/A

Flammability: N/A

Vapor Pressure: N/A

Boiling Point: N/A

Explosive or Oxidizing Properties: None

SECTION X. Stability and Reactivity

Stability: Stable

Incompatibles: Magnesium, strong oxidizers such as calcium hypochlorite (pool chlorine), strong alkalis, and isocyanuric acids.

Decomposition Products: This product may decompose in fire and release carbon monoxide, carbon dioxide, and sulfur dioxide. Oxides of phosphorous and ammonia have been reported.

Hazardous Polymerization: Will not occur

Hazardous Reactions: None

SECTION XI. Toxicological Information

Acute Toxicity: Monoammonium phosphate LD50 (rat): > 1000mg/kg body weight.

Target organs in humans: respiratory system, eyes, and skin. This product is an irritant to epithelial tissue and may aggravate dermatitis. No indication that the product causes sensitization.

SAFETY DATA SHEET

ABC DRY CHEMICAL

Chronic Toxicity: Pneumoconiosis, or “Dusty Lung” disease, may result from chronic exposure to any dust.

Reproductive Toxicity: This product is not known to have any reproductive effects.

SECTION XII. Ecological Information

Ecotoxicity: Negative effects are unknown. Provides nutrient nitrogen and phosphorous to plant life.

Degradability: Degrades rapidly in wet or humid environment.

Bioaccumulation: Unknown extent.

Mobility in Soil: Water-soluble. May leech in to groundwater.

SECTION XIII. Disposal Consideration

This product is not a RCRA characteristically hazardous or listed hazardous waste. Dispose of according to state or local laws, which may be more restrictive than federal regulations. Be aware that product used on a fire may be altered or contaminated and thereby require different disposal considerations.

SECTION XIV. Transportation Information

This product is not defined as a hazardous material under U.S. Department of Transportation 49 CFR 172, or by Transport Canada “Transportation of Dangerous Goods” regulations.

Please Note: Although this material is not considered hazardous, when contained in a stored pressure fire extinguisher pressurized with a nonflammable gas, the extinguisher itself is considered a hazardous material by the U.S. Department of Transportation (USDOT) and Transport Canada (TC). The proper shipping name shall be Fire Extinguisher and the UN Identification Number is UN 1044. The USDOT hazard class is Limited Quantity when pressurized to less than 241 psig and when shipped via highway or rail. Use Class 2.2, Non-Flammable Gas, when shipping via air.

SECTION XV. Regulatory Information

International Inventory Status: All ingredients are on the following inventories

<u>Country</u>	<u>Agency</u>
U.S.A.	TSCA
Canada	DSL
Europe	EINECS/ELINCS
Australia	AICS
Japan	MITI
South Korea	KECL

European Risk and Safety Phrases:

EU Classification- Harmful

R Phrases- 22 Harmful if swallowed
36/37/38 Irritating to eyes, respiratory system, and skin.

S Phrases- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
36 Wear suitable protective clothing

U.S. Federal Regulatory Information:

None of the chemicals in this product are under SARA reporting requirements or have SARA Threshold Planning Quantities or CERCLA Reportable Quantities, or are regulated under TSCA 8(d).

State Regulatory Information:

Chemicals in this product are covered under the specific State regulations noted:

Alaska	Designated Toxic and Hazardous Substances- None
California	Permissible Exposure Limits for Chemical Contaminants- None

Buckeye Fire Equipment Company

SAFETY DATA SHEET ABC DRY CHEMICAL

Florida	Substance list- Mica dust
Illinois	Toxic Substance List- None
Kansas	Section 302/303 List- None
Massachusetts	Substance list- Mica dust
Minnesota	List of Hazardous Substances- None
Missouri	Employer Information/Toxic Substance List- None
New Jersey	Right to Know Hazardous Substance List- None
North Dakota	List of Hazardous Chemicals, Reportable Quantities- None
Pennsylvania	Hazardous Substance List- None
Rhode Island	Hazardous Substance List- Mica dust
Texas	Hazardous Substance List- No
West Virginia	Hazardous Substance List- None
Wisconsin	Toxic and Hazardous Substances- None

California Proposition 65- No component is listed on the California Proposition 65 List

SECTION XVI. Other Information

This Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

HMIS RATINGS:

Health 1
Flammability 0
Reactivity 0

Personal Protective Equipment: use N-95 dust mask (See Section 8)

WHMIS (Canadian Workplace Hazardous Materials Identification)

D2B- May irritate eyes, mucous membranes, and/or skin

The information contained herein is given in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made.



Established 1909

Thomas, Bennett & Hunter, Inc.

MATERIAL SAFETY DATA SHEET

Ready-Mixed Concrete/Grout/Flowable Fill

SECTION I -- PRODUCT/COMPANY IDENTIFICATION

Manufacturer's Name: THOMAS, BENNETT & HUNTER, INC.
Main Office Address: 70 JOHN STREET, WESTMINSTER, MD 21157
Telephone Numbers: (410) 848-9030
Plant telephone numbers: FREDERICK, MD CONCRETE PLANT (301) 898-0700
 HAGERSTOWN, MD CONCRETE PLANT (301) 739-5944
 WESTMINSTER, MD CONCRETE PLANT (410) 848-9030
 MARTINSBURG, WV CONCRETE PLANT (304) 262-4664
Product Class: Ready-Mixed Concrete; Grout; Flowable Fill

SECTION II -- EMERGENCY and FIRST AID PROCEDURES

DANGER: MAY CAUSE BURNS TO EYES AND SKIN

SKIN CONTACT: Skin that comes in contact with fresh concrete should be washed thoroughly with large amounts of soap and clean water. Clothing that becomes saturated from contact with fresh concrete should be rinsed out promptly with clean water to prevent continued contact with skin surfaces. Mild irritation of skin areas can be relieved by applying a lanolin cream to the irritated area after washing. Persistent or severe discomfort should be attended to by a physician.

EYE CONTACT: Contact a physician immediately. Flush eyes with large amounts of clean water for at least 15 minutes.

INGESTION: Due to the nature of this material, it is unlikely that it will be ingested. If this does occur, remove individual from the area. Two or three glasses of milk or water should be provided to dilute the stomach contents, if the individual is conscious. Do not induce vomiting. Contact a physician or Poison Control Center.

SECTION III - HAZARDOUS INGREDIENTS

Concrete is a mixture of inert crushed limestone or gravel, silica sand or crushed limestone sand, Portland cement, ground granulated blast furnace slag, fly ash, water and one or more of the following admixtures (less than 1%): air entraining, water reducing, set accelerating, set retarding or polypropylene fibers. The hazardous ingredients in plastic (wet) concrete cannot become airborne. However, when the water is added to the dry ingredients, it reacts with the calcium oxide in the Portland cement to form calcium hydroxide -- a corrosive chemical which will irritate the eyes and skin upon contact. Concrete dust from dried Portland cement concrete may also contain hazardous ingredients in sufficient concentrations to cause skin, eye, or respiratory disease.

Chemical – Common Name	OSHA PEL	NIOSH REL	%	CAS No.
Portland Cement	5.0 mg/M ³ respirable dust; 15.0 mg/M ³ total dust	5.0 mg/M ³ respirable dust; 10.0 mg/M ³ total dust	20-30	65997-15-1
Calcium oxide	5 mg/M ³ total dust	2 mg/M ³ total dust	2-4	1305-62-0
Sand, quartz, crystalline silica	Approximately 0.1 mg/M ³ respirable dust	0.05 mg/M ³ respirable dust	10-20	14808-60-7
Gravel	none	None	40-50	1317-67-3

This product is delivered as a ready-mixed cement mud, so there is no dust hazard present from the plastic (wet) product and the OSHA PEL's and NIOSH REL's generally would not be applicable at time of delivery.

MATERIAL SAFETY DATA SHEET

Ready-Mixed Concrete/Grout/Flowable Fill

SECTION IV - PHYSICAL CHARACTERISTICS

Boiling range:	Does not apply	Vapor: Does not apply
Evaporation Rate:	Does not apply	Percent Volatile by Volume: 0%
Appearance & Odor:	Gray, plastic, flowable, granular; very faint odor.	
Specific gravity: (water = 1)	Normal range 1.5 - 2.9	Stability: stable
Hazardous polymerization:	none	Incompatible materials: none
Special precautions:	will harden in 2 - 8 hours	Neutralizing chemicals: N/A

SECTION V - FIRE AND EXPLOSION HAZARD DATA

DOT Category:	Non-Flammable	Flash Point: None	LEL: N/A
Extinguishing Media:	Does not apply		
Unusual Fire and Explosion Hazards:	None	Special Fire Fighting Procedures:	None

SECTION VI - HEALTH HAZARD INFORMATION

Skin/Eye Contact: Freshly mixed unhardened concrete CAN CAUSE SKIN IRRITATION, SEVERE CHEMICAL BURNS, or SERIOUS EYE DAMAGE. It contains sand and coarse aggregate which are abrasive to bare skin. Plastic (wet) concrete contains Portland cement, has an alkalinity of pH12 - pH13 and may cause irritation and alkali burns. Prolonged or repeated contact may cause allergic dermatitis in sensitive individuals. Skin contact may cause local irritation of the affected area. Pre-existing skin conditions may be aggravated by exposure.

Ingestion: Unlikely. May cause irritation.

Inhalation: Plastic (wet) ready-mixed concrete does not pose an inhalation hazard.

Carcinogenic Potential: Concrete frequently contains crystalline silica in concentrations greater than 0.1%, principally contributed by the aggregates. Respirable crystalline silica is classified by IARC (International Agency for Research on Cancer) as a known human carcinogen and by NTP (National Toxicology Program) as "reasonably anticipated to be a carcinogen." Crystalline silica in plastic (wet) ready-mixed concrete is not respirable and does not pose a hazard when the concrete is in its unhardened state. Once concrete has hardened, airborne dust generated by grinding, sawing, drilling, breaking, etc. can lead to potentially hazardous exposures to workers and appropriate respiratory protection precautions should be taken. Silicosis is a progressive lung disease caused by breathing respirable particles of silica dust over a period of time. Individuals vary in their susceptibility. Chronic silicosis may develop after 10 or more years of exposure to crystalline silica at relatively low levels. Accelerated silicosis may result from exposure to high concentrations over 5-10 years. Acute silicosis occurs where exposure concentrations are the highest and can cause symptoms to develop within a few weeks to 5 years. Dry cough may be an early manifestation of silicosis. As the disease progresses, the cough may become more prolonged and be associated with sputum production. The most frequently observed symptoms are unproductive cough, dyspnea (labored or difficult breathing), chest pains, and changes in breath sounds.



Established 1909

MATERIAL SAFETY DATA SHEET

Ready-Mixed Concrete/Grout/Flowable Fill

SECTION VII - PERSONAL PROTECTION & HAZARD CONTROL INFORMATION

Good Work Practices: Wear waterproof gloves, a long-sleeved shirt, full-length trousers and proper eye protection when working with concrete.

Other Precautions: If you stand in wet (unhardened) concrete, use waterproof boots that are high enough to keep concrete from flowing into them. Wash wet concrete, mortar, cement, or cement mixtures from your skin immediately after contact. Indirect contact through clothing can be as serious as direct contact, so promptly rinse out wet concrete, mortar, cement, or cement mixtures from clothing. Seek immediate medical attention if you have persistent or severe discomfort.

Respiratory Protection: None required with plastic (wet) concrete.

Ventilation: None required with plastic (wet) concrete.

Eye protection: Safety glasses or face shield recommended.

Skin Protection: Waterproof rubber gloves, waterproof rubber boots, long pants, long sleeve shirts recommended.

SECTION VIII -- PRECAUTIONS FOR SAFE HANDLING, USE & DISPOSAL

PLASTIC (WET) CONCRETE SHOULD BE KEPT OUT OF REACH OF CHILDREN.

Disposal: Small spills: Material will harden in 2 - 8 hours and can generally be removed and disposed of as common waste in accordance with applicable local requirements. If removing while still wet, water may be used to dilute. Use personal protective equipment described above.

Large spills: Notify safety personnel. Clean-up personnel need to use eye and body protection as described above.

Hard (dried) Portland Cement Concrete: Respirable dust may be generated when hardened concrete is subjected to mechanical forces, such as in demolition work and surface treatment (sanding, grooving, chiseling, cutting, grinding, etc.) To the extent practical, use wet methods to minimize airborne dust levels when sawing or using other concrete renovation methods. Wear an appropriate and approved respirator when the work generates any airborne dust. Providing exhaust ventilation to remove the dust to an unoccupied area when sawing or using other renovation methods may also contribute to reduced dust levels. Persons not wearing appropriate respiratory protective equipment should be excluded from dusty areas until the demolition work has been completed and the dust has cleared. When clearing renovation or demolition refuse, avoid re-entraining dust. Use wet methods or a vacuum with a high efficiency filter to remove the dust.

SECTION IX -- HAZARD CLASSIFICATION

The International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), and the National Institute for Occupational Safety and Health (NIOSH) classify crystalline silica as a probable human carcinogen.

This MSDS provides information on various types of ready-mixed concrete mixtures. A particular mixture's composition may vary from sample to sample. The information provided herein is believed by Thomas, Bennett & Hunter, Inc. to be accurate at the time of preparation or prepared from sources believed to be reliable. Health and safety precautions in this data sheet may not be adequate for all individuals or situations. Users have the responsibility to comply with all laws and procedures applicable to the safe handling and use of the product, to determine the suitability of the product for its intended use, and to understand possible hazards associated with using ready mixed concrete. THOMAS, BENNETT & HUNTER, INC. MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED.



Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950
US GHS

Synonyms: Hess Conventional (Oxygenated and Non-oxygenated) Gasoline; Reformulated Gasoline (RFG); Reformulated Gasoline Blendstock for Oxygenate Blending (RBOB); Unleaded Motor or Automotive Gasoline

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

Manufacturer Information

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

Phone: 732-750-6000 Corporate EHS
Emergency # 800-424-9300 CHEMTREC
www.hess.com (Environment, Health, Safety Internet Website)

*** Section 2 - Hazards Identification ***

GHS Classification:

Flammable Liquid - Category 2
Skin Corrosion/Irritation - Category 2
Germ Cell Mutagenicity - Category 1B
Carcinogenicity - Category 1B
Toxic to Reproduction - Category 1A
Specific Target Organ Toxicity (Single Exposure) - Category 3 (respiratory irritation, narcosis)
Specific Target Organ Toxicity (Repeat Exposure) - Category 1 (liver, kidneys, bladder, blood, bone marrow, nervous system)
Aspiration Hazard - Category 1
Hazardous to the Aquatic Environment – Acute Hazard - Category 3

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

DANGER

Hazard Statements

Highly flammable liquid and vapour.
Causes skin irritation.
May cause genetic defects.
May cause cancer.
May damage fertility or the unborn child.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Causes damage to organs (liver, kidneys, bladder, blood, bone marrow, nervous system) through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.
Harmful to aquatic life.

Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking
 Keep container tightly closed.
 Ground/bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Wash hands and forearms thoroughly after handling.
 Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe mist/vapours/spray.
 Use only outdoors or in well-ventilated area.
 Do not eat, drink or smoke when using this product.
 Avoid release to the environment.

Response

In case of fire: Use water spray, fog, dry chemical fire extinguishers or hand held fire extinguisher.
 IF ON SKIN (or hair): Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
 IF exposed or concerned: Get medical advice/attention.
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
 Get medical advice/attention if you feel unwell.
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting.

Storage

Store in a well-ventilated place.
 Keep cool. Keep container tightly closed.
 Store locked up.

Disposal

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

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

CAS #	Component	Percent
86290-81-5	Gasoline, motor fuel	100
108-88-3	Toluene	1-25
106-97-8	Butane	<10
1330-20-7	Xylenes (o-, m-, p- isomers)	1-15
95-63-6	Benzene, 1,2,4-trimethyl-	<6
64-17-5	Ethyl alcohol	0-10
100-41-4	Ethylbenzene	<3
71-43-2	Benzene	0.1-4.9

Safety Data Sheet

Material Name: Gasoline All Grades**SDS No. 9950**

110-54-3	Hexane	0.5-4
----------	--------	-------

A complex blend of petroleum-derived normal and branched-chain alkane, cycloalkane, alkene, and aromatic hydrocarbons. May contain antioxidant and multifunctional additives. Non-oxygenated Conventional Gasoline and RBOB do not have oxygenates (Ethanol). Oxygenated Conventional and Reformulated Gasoline will have oxygenates for octane enhancement or as legally required.

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

First Aid: Eyes

In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

First Aid: Skin

Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or with waterless hand cleanser. Obtain medical attention if irritation or redness develops.

First Aid: Ingestion

DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

First Aid: Inhalation

Remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

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

General Fire Hazards

See Section 9 for Flammability Properties.

Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently.

Extinguishing Media

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO₂, water spray, fire fighting foam, or gaseous extinguishing agent.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

Firefighting foam suitable for polar solvents is recommended for fuel with greater than 10% oxygenate concentration.

Unsuitable Extinguishing Media

None

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Fire Fighting Equipment/Instructions

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

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

Recovery and Neutralization

Carefully contain and stop the source of the spill, if safe to do so.

Materials and Methods for Clean-Up

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Caution, flammable vapors may accumulate in closed containers.

Emergency Measures

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Personal Precautions and Protective Equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental Precautions

Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Prevention of Secondary Hazards

None

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

Handling Procedures

USE ONLY AS A MOTOR FUEL.
DO NOT SIPHON BY MOUTH

Handle as a flammable liquid. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

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Material Name: Gasoline All Grades**SDS No. 9950**

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

Storage Procedures

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

Incompatibilities

Keep away from strong oxidizers.

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

Gasoline, motor fuel (86290-81-5)

ACGIH: 300 ppm TWA
500 ppm STEL

Toluene (108-88-3)

ACGIH: 20 ppm TWA
OSHA: 200 ppm TWA; 375 mg/m³ TWA
150 ppm STEL; 560 mg/m³ STEL
NIOSH: 100 ppm TWA; 375 mg/m³ TWA
150 ppm STEL; 560 mg/m³ STEL

Butane (106-97-8)

ACGIH: 1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)
OSHA: 800 ppm TWA; 1900 mg/m³ TWA
NIOSH: 800 ppm TWA; 1900 mg/m³ TWA

Xylenes (o-, m-, p- isomers) (1330-20-7)

ACGIH: 100 ppm TWA
150 ppm STEL
OSHA: 100 ppm TWA; 435 mg/m³ TWA
150 ppm STEL; 655 mg/m³ STEL

Benzene, 1,2,4-trimethyl- (95-63-6)

NIOSH: 25 ppm TWA; 125 mg/m³ TWA

Ethyl alcohol (64-17-5)

ACGIH: 1000 ppm STEL
OSHA: 1000 ppm TWA; 1900 mg/m³ TWA
NIOSH: 1000 ppm TWA; 1900 mg/m³ TWA

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Material Name: Gasoline All Grades**SDS No. 9950****Ethylbenzene (100-41-4)**

ACGIH: 20 ppm TWA
OSHA: 100 ppm TWA; 435 mg/m³ TWA
125 ppm STEL; 545 mg/m³ STEL
NIOSH: 100 ppm TWA; 435 mg/m³ TWA
125 ppm STEL; 545 mg/m³ STEL

Benzene (71-43-2)

ACGIH: 0.5 ppm TWA
2.5 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 5 ppm STEL (Cancer hazard, Flammable, See 29 CFR 1910.1028, 15 min); 0.5 ppm Action Level; 1 ppm TWA
NIOSH: 0.1 ppm TWA
1 ppm STEL

Hexane (110-54-3)

ACGIH: 50 ppm TWA
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 500 ppm TWA; 1800 mg/m³ TWA
NIOSH: 50 ppm TWA; 180 mg/m³ TWA

Engineering Measures

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

Personal Protective Equipment: Respiratory

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

Personal Protective Equipment: Hands

Gloves constructed of nitrile, neoprene, or PVC are recommended.

PERSONAL PROTECTIVE EQUIPMENT**Personal Protective Equipment: Eyes**

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

Personal Protective Equipment: Skin and Body

Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

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

Appearance:	Translucent, straw-colored or light yellow	Odor:	Strong, characteristic aromatic hydrocarbon odor. Sweet-ether like
Physical State:	Liquid	pH:	ND
Vapor Pressure:	6.4 - 15 RVP @ 100 °F (38 °C) (275-475 mm Hg @ 68 °F (20 °C)	Vapor Density:	AP 3-4
Boiling Point:	85-437 °F (39-200 °C)	Melting Point:	ND
Solubility (H2O):	Negligible to Slight	Specific Gravity:	0.70-0.78
Evaporation Rate:	10-11	VOC:	ND
Percent Volatile:	100%	Octanol/H2O Coeff.:	ND
Flash Point:	-45 °F (-43 °C)	Flash Point Method:	PMCC
Upper Flammability Limit (UFL):	7.6%	Lower Flammability Limit (LFL):	1.4%
Burning Rate:	ND	Auto Ignition:	>530°F (>280°C)

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

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

Incompatible Products

Keep away from strong oxidizers.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently.

*** Section 11 - Toxicological Information ***

Acute Toxicity

A: General Product Information

Harmful if swallowed.

B: Component Analysis - LD50/LC50

Gasoline, motor fuel (86290-81-5)

Inhalation LC50 Rat >5.2 mg/L 4 h; Oral LD50 Rat 14000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg

Toluene (108-88-3)

Inhalation LC50 Rat 12.5 mg/L 4 h; Inhalation LC50 Rat >26700 ppm 1 h; Oral LD50 Rat 636 mg/kg; Dermal LD50 Rabbit 8390 mg/kg; Dermal LD50 Rat 12124 mg/kg

Butane (106-97-8)

Inhalation LC50 Rat 658 mg/L 4 h

Safety Data Sheet

Material Name: Gasoline All Grades**SDS No. 9950****Xylenes (o-, m-, p- isomers) (1330-20-7)**

Inhalation LC50 Rat 5000 ppm 4 h; Inhalation LC50 Rat 47635 mg/L 4 h; Oral LD50 Rat 4300 mg/kg; Dermal LD50 Rabbit >1700 mg/kg

Benzene, 1,2,4-trimethyl- (95-63-6)

Inhalation LC50 Rat 18 g/m³ 4 h; Oral LD50 Rat 3400 mg/kg; Dermal LD50 Rabbit >3160 mg/kg

Ethyl alcohol (64-17-5)

Oral LD50 Rat 7060 mg/kg; Inhalation LC50 Rat 124.7 mg/L 4 h

Ethylbenzene (100-41-4)

Inhalation LC50 Rat 17.2 mg/L 4 h; Oral LD50 Rat 3500 mg/kg; Dermal LD50 Rabbit 15354 mg/kg

Benzene (71-43-2)

Inhalation LC50 Rat 13050-14380 ppm 4 h; Oral LD50 Rat 1800 mg/kg

Hexane (110-54-3)

Inhalation LC50 Rat 48000 ppm 4 h; Oral LD50 Rat 25 g/kg; Dermal LD50 Rabbit 3000 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Moderate irritant. Contact with liquid or vapor may cause irritation.

Potential Health Effects: Ingestion

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Potential Health Effects: Inhalation

Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

This product may cause genetic defects.

Carcinogenicity**A: General Product Information**

May cause cancer.

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Material Name: Gasoline All Grades

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IARC has determined that gasoline and gasoline exhaust are possibly carcinogenic in humans. Inhalation exposure to completely vaporized unleaded gasoline caused kidney cancers in male rats and liver tumors in female mice. The U.S. EPA has determined that the male kidney tumors are species-specific and are irrelevant for human health risk assessment. The significance of the tumors seen in female mice is not known. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with effects to the central and peripheral nervous systems, liver, and kidneys. The significance of these animal models to predict similar human response to gasoline is uncertain.

This product contains benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-forming system (particularly bone marrow), and serious blood disorders such as aplastic anemia and leukemia. Benzene is listed as a human carcinogen by the NTP, IARC, OSHA and ACGIH.

B: Component Carcinogenicity

Gasoline, motor fuel (86290-81-5)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Toluene (108-88-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

Xylenes (o-, m-, p- isomers) (1330-20-7)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

Ethyl alcohol (64-17-5)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

IARC: Monograph 100E [in preparation] (in alcoholic beverages); Monograph 96 [2010] (in alcoholic beverages) (Group 1 (carcinogenic to humans))

Ethylbenzene (100-41-4)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

IARC: Monograph 77 [2000] (Group 2B (possibly carcinogenic to humans))

Benzene (71-43-2)

ACGIH: A1 - Confirmed Human Carcinogen

OSHA: 5 ppm STEL (Cancer hazard, Flammable, See 29 CFR 1910.1028, 15 min); 0.5 ppm Action Level; 1 ppm TWA

NIOSH: potential occupational carcinogen

NTP: Known Human Carcinogen (Select Carcinogen)

IARC: Monograph 100F [in preparation]; Supplement 7 [1987]; Monograph 29 [1982] (Group 1 (carcinogenic to humans))

Reproductive Toxicity

This product is suspected of damaging fertility or the unborn child.

Specified Target Organ General Toxicity: Single Exposure

This product may cause drowsiness or dizziness.

Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

Specified Target Organ General Toxicity: Repeated Exposure

This product causes damage to organs through prolonged or repeated exposure.

Aspiration Respiratory Organs Hazard

The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

Very toxic to aquatic life with long lasting effects. Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Gasoline, motor fuel (86290-81-5)

Test & Species

Conditions

96 Hr LC50 Alburnus alburnus	119 mg/L [static]
96 Hr LC50 Cyprinodon variegatus	82 mg/L [static]
72 Hr EC50 Pseudokirchneriella subcapitata	56 mg/L
24 Hr EC50 Daphnia magna	170 mg/L

Toluene (108-88-3)

Test & Species

Conditions

96 Hr LC50 Pimephales promelas	15.22-19.05 mg/L [flow-through]	1 day old
96 Hr LC50 Pimephales promelas	12.6 mg/L [static]	
96 Hr LC50 Oncorhynchus mykiss	5.89-7.81 mg/L [flow-through]	
96 Hr LC50 Oncorhynchus mykiss	14.1-17.16 mg/L [static]	
96 Hr LC50 Oncorhynchus mykiss	5.8 mg/L [semi-static]	
96 Hr LC50 Lepomis macrochirus	11.0-15.0 mg/L [static]	
96 Hr LC50 Oryzias latipes	54 mg/L [static]	
96 Hr LC50 Poecilia reticulata	28.2 mg/L [semi-static]	
96 Hr LC50 Poecilia reticulata	50.87-70.34 mg/L [static]	
96 Hr EC50 Pseudokirchneriella subcapitata	>433 mg/L	
72 Hr EC50 Pseudokirchneriella subcapitata	12.5 mg/L [static]	
48 Hr EC50 Daphnia magna	5.46 - 9.83 mg/L [Static]	
48 Hr EC50 Daphnia magna	11.5 mg/L	

Xylenes (o-, m-, p- isomers) (1330-20-7)

Test & Species

Conditions

96 Hr LC50 Pimephales promelas	13.4 mg/L [flow-through]
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Material Name: Gasoline All Grades

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96 Hr LC50 Oncorhynchus mykiss	2.661-4.093 mg/L [static]
96 Hr LC50 Oncorhynchus mykiss	13.5-17.3 mg/L
96 Hr LC50 Lepomis macrochirus	13.1-16.5 mg/L [flow-through]
96 Hr LC50 Lepomis macrochirus	19 mg/L
96 Hr LC50 Lepomis macrochirus	7.711-9.591 mg/L [static]
96 Hr LC50 Pimephales promelas	23.53-29.97 mg/L [static]
96 Hr LC50 Cyprinus carpio	780 mg/L [semi- static]
96 Hr LC50 Cyprinus carpio	>780 mg/L
96 Hr LC50 Poecilia reticulata	30.26-40.75 mg/L [static]
48 Hr EC50 water flea	3.82 mg/L
48 Hr LC50 Gammarus lacustris	0.6 mg/L

Benzene, 1,2,4-trimethyl- (95-63-6)

Test & Species

Conditions

96 Hr LC50 Pimephales promelas	7.19-8.28 mg/L [flow-through]
48 Hr EC50 Daphnia magna	6.14 mg/L

Ethyl alcohol (64-17-5)

Test & Species

Conditions

96 Hr LC50 Oncorhynchus mykiss	12.0 - 16.0 mL/L [static]
96 Hr LC50 Pimephales promelas	>100 mg/L [static]
96 Hr LC50 Pimephales promelas	13400 - 15100 mg/L [flow-through]
48 Hr LC50 Daphnia magna	9268 - 14221 mg/L
24 Hr EC50 Daphnia magna	10800 mg/L
48 Hr EC50 Daphnia magna	2 mg/L [Static]

Ethylbenzene (100-41-4)

Test & Species

Conditions

96 Hr LC50 Oncorhynchus mykiss	11.0-18.0 mg/L [static]
96 Hr LC50 Oncorhynchus mykiss	4.2 mg/L [semi- static]
96 Hr LC50 Pimephales promelas	7.55-11 mg/L [flow- through]
96 Hr LC50 Lepomis macrochirus	32 mg/L [static]
96 Hr LC50 Pimephales promelas	9.1-15.6 mg/L [static]
96 Hr LC50 Poecilia reticulata	9.6 mg/L [static]
72 Hr EC50 Pseudokirchneriella subcapitata	4.6 mg/L
96 Hr EC50 Pseudokirchneriella subcapitata	>438 mg/L
72 Hr EC50 Pseudokirchneriella subcapitata	2.6 - 11.3 mg/L [static]

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96 Hr EC50 Pseudokirchneriella subcapitata	1.7 - 7.6 mg/L [static]
48 Hr EC50 Daphnia magna	1.8 - 2.4 mg/L

Benzene (71-43-2)

Test & Species

Conditions

96 Hr LC50 Pimephales promelas	10.7-14.7 mg/L [flow-through]
96 Hr LC50 Oncorhynchus mykiss	5.3 mg/L [flow-through]
96 Hr LC50 Lepomis macrochirus	22.49 mg/L [static]
96 Hr LC50 Poecilia reticulata	28.6 mg/L [static]
96 Hr LC50 Pimephales promelas	22330-41160 µg/L [static]
96 Hr LC50 Lepomis macrochirus	70000-142000 µg/L [static]
72 Hr EC50 Pseudokirchneriella subcapitata	29 mg/L
48 Hr EC50 Daphnia magna	8.76 - 15.6 mg/L [Static]
48 Hr EC50 Daphnia magna	10 mg/L

Hexane (110-54-3)

Test & Species

Conditions

96 Hr LC50 Pimephales promelas	2.1-2.98 mg/L [flow-through]
24 Hr EC50 Daphnia magna	>1000 mg/L

Persistence/Degradability

No information available.

Bioaccumulation

No information available.

Mobility in Soil

No information available.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

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

Safety Data Sheet

Material Name: Gasoline All Grades

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*** Section 14 - Transportation Information ***

Component Marine Pollutants

This material contains one or more of the following chemicals required by US DOT to be identified as marine pollutants.

Component	CAS #	
Gasoline, motor fuel	86290-81-5	DOT regulated marine pollutant

DOT Information

Shipping Name: Gasoline

UN #: 1203 Hazard Class: 3 Packing Group: II

Placard:



*** Section 15 - Regulatory Information ***

Regulatory Information

A: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Toluene (108-88-3)

SARA 313: 1.0 % de minimis concentration
CERCLA: 1000 lb final RQ; 454 kg final RQ

Xylenes (o-, m-, p- isomers) (1330-20-7)

SARA 313: 1.0 % de minimis concentration
CERCLA: 100 lb final RQ; 45.4 kg final RQ

Benzene, 1,2,4-trimethyl- (95-63-6)

SARA 313: 1.0 % de minimis concentration

Ethylbenzene (100-41-4)

SARA 313: 0.1 % de minimis concentration
CERCLA: 1000 lb final RQ; 454 kg final RQ

Benzene (71-43-2)

SARA 313: 0.1 % de minimis concentration
CERCLA: 10 lb final RQ (received an adjusted RQ of 10 lbs based on potential carcinogenicity in an August 14, 1989 final rule); 4.54 kg final RQ (received an adjusted RQ of 10 lbs based on potential carcinogenicity in an August 14, 1989 final rule)

Safety Data Sheet

Material Name: Gasoline All Grades
SDS No. 9950
Hexane (110-54-3)

SARA 313: 1.0 % de minimis concentration

CERCLA: 5000 lb final RQ; 2270 kg final RQ

SARA Section 311/312 – Hazard Classes
Acute Health

X

Chronic Health

X

Fire

X

Sudden Release of Pressure

--

Reactive

--

Component Marine Pollutants

This material contains one or more of the following chemicals required by US DOT to be identified as marine pollutants.

Component	CAS #	
Gasoline, motor fuel	86290-81-5	DOT regulated marine pollutant

State Regulations
Component Analysis - State

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

Component	CAS	CA	MA	MN	NJ	PA	RI
Gasoline, motor fuel	86290-81-5	No	No	No	No	Yes	No
Toluene	108-88-3	Yes	Yes	Yes	Yes	Yes	No
Butane	106-97-8	Yes	Yes	Yes	Yes	Yes	No
Xylenes (o-, m-, p- isomers)	1330-20-7	Yes	Yes	Yes	Yes	Yes	No
Benzene, 1,2,4-trimethyl-	95-63-6	No	Yes	Yes	Yes	Yes	No
Ethyl alcohol	64-17-5	Yes	Yes	Yes	Yes	Yes	No
Ethylbenzene	100-41-4	Yes	Yes	Yes	Yes	Yes	No
Benzene	71-43-2	Yes	Yes	Yes	Yes	Yes	No
Hexane	110-54-3	No	Yes	Yes	Yes	Yes	No

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

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

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Toluene	108-88-3	1 %
Butane	106-97-8	1 %
Benzene, 1,2,4-trimethyl-	95-63-6	0.1 %
Ethyl alcohol	64-17-5	0.1 %
Ethylbenzene	100-41-4	0.1 %
Benzene	71-43-2	0.1 %
Hexane	110-54-3	1 %

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Gasoline, motor fuel	86290-81-5	No	DSL	EINECS
Toluene	108-88-3	Yes	DSL	EINECS
Butane	106-97-8	Yes	DSL	EINECS
Xylenes (o-, m-, p- isomers)	1330-20-7	Yes	DSL	EINECS
Benzene, 1,2,4-trimethyl-	95-63-6	Yes	DSL	EINECS
Ethyl alcohol	64-17-5	Yes	DSL	EINECS
Ethylbenzene	100-41-4	Yes	DSL	EINECS
Benzene	71-43-2	Yes	DSL	EINECS
Hexane	110-54-3	Yes	DSL	EINECS

*** Section 16 - Other Information ***

NFPA® Hazard Rating

Health	2
Fire	3
Reactivity	0



HMIS® Hazard Rating

Health	2	Moderate
Fire	3	Serious
Physical	0	Minimal

*Chronic

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

Other Information

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

End of Sheet

Safety Data Sheet Hot Mix Asphalt

Section 1. Identification

GHS product identifier:	Hot Mix Asphalt
Other means of identification:	Asphalt, Blacktop, Asphaltic Concrete, Tarmac
Relevant identified uses of the substance or mixture and uses advised against:	Hot Mix Asphalt is utilized for construction purposes such as paving roads, driveways, parking lots and other surfaces.
Supplier's details:	300 E. John Carpenter Freeway, Suite 1645 Irving, TX 75062 (972) 653-5500
Emergency telephone number (24 hours):	CHEMTREC: (800) 424-9300

Section 2. Hazards Identification

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture:	SKIN CORROSION/IRRITATION – Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1 CARCINOGENICITY/INHALATION – Category 1A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] – Category 3

GHS label elements

Hazard pictograms:



Signal word:

Hazard statements:

Danger
 Causes severe skin burns and eye damage
 May cause respiratory irritation
 May cause cancer by inhalation
 Causes damage to organs (lungs/respiratory system) through prolonged or repeated exposure (inhalation)

Precautionary statements:

Prevention:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Use only outdoors in a well ventilated area. Wash any exposed body parts thoroughly after handling. Use personal protective equipment as required. Wear protective gloves/protective clothing/eye protection/face protection.

Response:

If exposed or concerned: Immediately get medical advice/attention if you feel unwell or irritation or rash occurs. If on skin: Wash with plenty of water. Remove/take off immediately all contaminated clothing and wash it before reuse. Rinse cautiously with water for several minutes. If in eyes: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do. If inhaled: Remove person to fresh air and keep comfortable for breathing. If swallowed: Rinse mouth. Do not induce vomiting.

Storage:

Restrict or control access (store locked up). Engulfment hazard: Store in a well ventilated area. Keep container tightly closed.

Disposal:

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

Hazards not otherwise classified (HNOC):

None known

Supplemental Information:

This product is a mixture or liquid asphalt and aggregates. Aggregates may contain variable degrees of Respirable Crystalline Silica (RCS) which may cause cancer. Repeated inhalation of

respirable crystalline silica (quartz) may cause lung cancer according to IARC and NTP; ACGIH states that it is a suspected cause of cancer. Other forms of RCS (e.g., tridymite and cristobalite) may also be present or formed under certain industrial processes. Release of silica should only occur if product is hammered, ground, or otherwise broken/damaged.

Section 3. Composition/information on ingredients

CAS number/other identifiers

Substance/mixture: Hot Mix Asphalt

Ingredient name	%	CAS number
Aggregate	90 – 95	Varies
Asphalt Cement	< 10	8052-42-4
The structure of Hot Mix Asphalt may contain the following in some concentration ranges:		
Crystalline Silica (Quartz)	> 1	14808-60-7
Hydrogen Sulfide	> 1	7783-06-4
Additives	< 1	Mixture

Any concentration shown as a range is to protect confidentiality or is due to process variation. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. These materials are mined from the earth. Trace amounts of additional elements might be detected during chemical analysis of these materials.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye Contact:	If hot product splashes into eyes or hardened dust gets into the eyes, immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contacts if present and easy to do. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Get medical attention if irritation, pain swelling or any other eye issue develops or persists.
Inhalation:	Move to fresh air. Call a physician if symptoms develop or persist. Dust in throat and nasal passages should clear spontaneously. Administer oxygen and assist ventilation as required.
Skin Contact:	If molten product contacts the skin, quickly remove contaminated clothing and cool immediately by immersing the contacted skin in cool water to limit tissue damage and skin damage. For extensive burns cover with sterile bandage. Molten product may adhere strongly to skin and attempted removal may cause severe distress and further tissue damage. Do not use solvents to remove product from the skin. For product dust that is not hot, wash off with soap and water. Get medical attention if irritation develops and persists.
Ingestion:	Ingestion of hot and cold material can have varying effects. Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Most important symptoms/effects, acute and delayed

Direct contact can produce thermal burns. If ingested, Hot Mix Asphalt may be absorbed by the gastrointestinal tract with possible systemic effects (gastrointestinal irritation, vomiting, diarrhea, and CNS depression) and possible aspiration into the lungs. Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer. Inhalation of vapor when product is heated can cause headache, nausea and respiratory tract irritation, and nervousness due to the formation of hydrogen sulfide gas. Inhalation of hydrogen sulfide gas can cause upper respiratory tract irritation and, if exposure is prolonged at levels above the occupational exposure limits, pulmonary edema and even coma or death.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: Provide general supportive measures and treat symptomatically. Keep victim under

Specific treatments:
Protection of first-aiders:

observation. Symptoms may be delayed.

Not Applicable

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

General information:

Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders). If addicted to tobacco, smoking will impair the ability of the lungs to clear themselves of dust.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Not flammable. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media:

None known.

Specific hazards arising from the chemical:

No unusual fire or explosion hazards noted. Not a combustible dust.

Hazardous thermal decomposition

Products:

High heating of product may produce hydrogen sulfide.

Special protective equipment for fire-fighters:

Use protective equipment appropriate for surrounding materials. Avoid breathing gas vapor, fumes or decomposition products. Wear a SCBA.

General fire hazards:

Contact with powerful oxidizing agents may cause fire and/or explosions (see section 10 of SDS).

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

If hot product is spilled, evacuate unnecessary personnel, remove all heat and ignition sources and provide explosion proof ventilation. Use water spray to reduce vapors. Wear appropriate protective equipment and clothing during clean-up of materials that contain or may liberate dust

Methods and materials for containment, cleaning up and Environmental precautions

Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Avoid discharge of fine particulate matter into drains or water courses. Do not dry sweep broken, dusty material. Use water spray to minimize dust or vacuum with HEPA filters.

Section 7. Handling and storage

Precautions for safe handling

Protective measures:

Do not handle until all safety precautions have been read and understood. Contact with hot product can cause severe burns. Keep ignition sources away from product and do not breathe vapors when opening hatches and dome covers. Keep formation of airborne dusts to a minimum if sawing, grinding or crushing. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Promptly remove dusty clothing and launder before reuse.

Advice on general occupational hygiene:

Conditions for safe storage, including any incompatibilities:

Avoid dust formation or accumulation. Store brick and clay units securely to reduce the possibility of overturning cubes.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits:

- 1 – Value equivalent to OSHA formulas (29 CFR 1910.1000; 29 CFR 1917; 29 CFR 1918)
- 2 – Value also applies to MSHA metal/Non-Metal (1973 TLVs at 30 CFR 56/57.5001)
- 3 – OSHA enforces 0.250 mg/m³ in construction and shipyards (CPL-03-00-007)
- 4 – Value also applies to OSHA construction (29 CFR 1926.55 Appendix A) and shipyards (29 CFR 1915.1000 Table Z)
- 5 – MSHA limit = 10 mg/m³

Ingredient name	Exposure limits
Particulates not otherwise classified (dust) (CAS SEQ250)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m ³ . Form: Respirable particles (2) TWA: 10 mg/m ³ . Form: Inhalable particles (2) OSHA PEL (United States, 6/2010) PEL: 5 mg/m ³ . Form: Respirable fraction PEL: 15 mg/m ³ . Form: Total dust (4) TWA: 5 mg/m ³ . Form: Respirable fraction (1) TWA: 15 mg/m ³ . Form: Total dust (1, 4, 5)
Asphalt Cement (CAS # 8052-42-4)	ACGIH TLV (United States, 3/2013) TWA: 0.5 mg/m ³ . Form: as benzene-soluble aerosol
Crystalline Silica (Quartz) (CAS 14808-60-7)	OSHA PEL (United States, 6/2010) TWA: 0.3 mg/m ³ . Form: Total dust (1,2) TWA: 0.1 mg/m ³ . Form: Respirable (1,2,3)
Crystalline Silica (all forms; CAS mixture)	ACGIH TLV (United States, 3/2012) TWA: 0.025 mg/m ³ . Form: Respirable fraction NIOSH REL (United States, 6/2009) TWA: 0.05 mg/m ³ . Form: Respirable dust
Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)	OSHA PEL (United States, 6/2010) TWA: 0.15 mg/m ³ . Form: Total dust (1) TWA: 0.05 mg/m ³ . Form: Respirable (1,2)
Hydrogen Sulfide	OSHA PEL (United States, 6/2010) C: 20 ppm (Ceiling) ACGIH TLV (United States, 3/2012) TWA: 1 ppm STEL: 5 ppm NIOSH REL (United States, 6/2009) REL: 10 ppm (Ceiling)

Appropriate engineering controls:

Good general ventilation (typically 10 air changes per hour indoors) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits when sawing, cutting, crushing, drilling or otherwise damaging products. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Exposure guidelines:

OSHA PELs, MSHA PELs, and ACGIH TLVs are 8-hr TWA values. NIOSH RELs are for TWA exposures up to 10-hr/day and 40-hr/wk. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Terms including "Particulates Not Otherwise Classified," "Particulates Not Otherwise Regulated," "Particulates Not Otherwise Specified," and "Inert or Nuisance Due" are often used interchangeably; however, the user should review each agency's terminology for differences in meanings.

Individual protection measures

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.

Eye/face protection:

Wear safety glasses with side shields (or goggles).

Hand & Body protection:

Use heat insulated gloves and clothing. Use appropriate protective gloves if manually handling cooled product.

Other skin protection:

Use personal protective equipment as required.

Respiratory protection:	If vapors from heated product exceed appropriate exposure limits use appropriate NIOSH approved respiratory protection. When handling or performing work that produces dust or respirable crystalline silica in excess of applicable exposure limits, wear a NIOSH-approved respirator that is properly fitted and is in good condition. Respirators must be used in accordance with all applicable workplace regulations. Supplied air respirators should be used if it is expected the hydrogen sulfide is present, or when entering confined or enclosed spaces where hydrogen sulfide may be present.
Thermal hazards:	Wear appropriate thermal protective clothing if necessary.

Section 9. Physical and chemical properties

Appearance

Physical State:	Combination of aggregates, filler and binder – semi solid.	Lower and Upper explosive flammable limits	Not applicable
Color:	Various colors, black	Vapor pressure:	Not applicable
Odor:	Not applicable	Vapor density:	> 5 (air = 1)
Odor threshold:	Not applicable	Relative density:	Not available
pH:	Not available	Solubility:	Not available
Melting point:	~ 200 °F	Solubility in water:	Negligible
Boiling point:	< 878 °F	Partition coefficient: n-octanol/water:	Not applicable
Flash point:	> 400 °F	Auto-ignition temperature:	905 °F
Burning time:	Not applicable	Decomposition temperature:	> 220 °C
Burning rate:	Not applicable	SADT:	Not available
Evaporation Rate:	Not applicable	Viscosity:	Not applicable
Flammability (solid, gas):	Not applicable		

Section 10. Stability and reactivity

Reactivity:	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical Stability:	Material is stable under normal conditions
Possibility of hazardous reactions:	No dangerous reaction known under conditions of normal use.
Conditions to avoid:	Avoid high temperatures, open flames, sparks, welding, smoking and other sources of ignition. May readily ignite when mixed with naphtha and other volatile solvents.
Incompatible materials:	Crystalline silica may react violently with strong oxidizing agents, causing fire and explosions.
Hazardous decomposition products:	Thermal decomposition may release carbon monoxide, carbon dioxide, hydrogen sulfide, nitrogen dioxide, ozone and other organic and inorganic compounds. Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity:	Detailed below.
Irritation/Corrosion:	Skin: Direct contact with hot material may cause burns. May cause irritation through mechanical abrasion. Eyes: Direct contact with eyes may cause irritation through mechanical abrasion. Hot material may cause burns. Inhalation: Repeated inhalation of respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is irreversible and may be fatal. Silicosis increases the risk of contracting pulmonary tuberculosis. Some studies suggest that repeated inhalation of respirable crystalline silica may cause other adverse health effects including lung and kidney cancer. Ingestion: Not likely due to product form. However ingestion of large amounts of product may cause gastrointestinal irritation and blockage.
Mutagenicity:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Aspiration Hazard:	If ingested, may be an aspiration hazard.
Reproductive toxicity:	Not expected to be a reproductive hazard.
Symptoms related to physical,	

chemical and toxicological
characteristics:
Carcinogenicity:

Dust: discomfort in the chest. Shortness of breath. Coughing.
 Respirable crystalline silica has been classified by IARC and NTP as a known human carcinogen, and classified by ACGIH as a suspected human carcinogen.

Product/ingredient name	OSHA	IARC	ACGIH	NTP
Crystalline Silica (Quartz) (CAS 14808-60-7)	Not listed	1 Carcinogenic to humans	A2	Known to be human Carcinogen
Respirable Tridymite and Cristobalite (Other forms of Crystalline) (CAS Mixture)	Not listed	1 Carcinogenic to humans	-	-
Asphalt (CAS 8052-42-4) as benzene-soluble aerosol	Not listed	-	A4	Not classifiable as a human Carcinogen
Hydrogen Sulfide	-	-	Not listed	

Specific target organ toxicity (acute exposure)

Name	Category	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	-	Inhalation	Not reported to have effects
Respirable Tridymite and Cristobalite (Other forms of Crystalline) (CAS Mixture)	-	Inhalation	Not reported to have effects
Asphalt (CAS 8052-42-4) as benzene-soluble aerosol	-	Inhalation, ingestion, skin/eye contacted	Lungs: Shortness of breath, Eye/Skin: Burns by hot product, Ingestion: stomach obstruction
Hydrogen Sulfide	-	Inhalation	Upper respiratory tract and Central Nervous System

Specific target organ toxicity (chronic exposure)

Name	Category	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	-	Inhalation	May cause damage to organs (lung through prolonged or repeated exposure.
Respirable Tridymite and Cristobalite (Other forms of Crystalline) (CAS Mixture)	-	Inhalation	May cause damage to organs (lung through prolonged or repeated exposure.
Asphalt (CAS 8052-42-4) as benzene-soluble aerosol	-	Inhalation, ingestion, skin/eye contact	Not reported to have effects
Hydrogen Sulfide	-	Inhalation	Central Nervous System

Potential chronic health effects: General: Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lungs) through prolonged or repeated exposure. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and the thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.

Section 12. Ecological Information

Ecotoxicity

Not expected to be harmful to aquatic organisms. Discharging dust and fines into waters may increase total suspended particulate (TSP) levels that can be harmful to certain aquatic organisms.

Persistence and degradability: Not applicable.
Bioaccumulative potential: Not applicable.
Mobility in soil: Not applicable.
Other adverse effects: No other adverse environmental effects are anticipated from this component.

Section 13. Disposal considerations

Disposal methods: Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of contents in accordance with local/regional/national/international regulations.
Hazardous waste code: Not reported.
Waste from residues/unused products: Dispose of in accordance with local regulations.
Contaminated packaging: Not applicable

Section 14. Transportation information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	Elevated Temperature	-	-
Transport hazard class(es)	Material	-	-
Packing group	-	-	-
Environmental hazards	-	-	-
Additional information	HOT	-	-

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

Section 15. Regulatory Information

U.S. Federal regulations:
OSHA Hazard Communication Standard, 29 CFR 1910.1200 This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200
TSCA Section 12(b) Export Notification (40 CFR 707, Subpart. D): Not regulated
CERCLA Hazardous Substance List (40 CFR 302.4): Releases may be regulated
Clean Air Act Section 112 (b): Hazardous Air Pollutants (HAPs): Not regulated
Clean Air Act Section 112 (r) Accidental Release Prevention (40 CFR 68.130): Not regulated

SARA 311/312

Classification: Immediate & Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire Hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard

Crystalline Silica (Quartz) CAS 14808-60-7	>1	No	No	No	No	Yes
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SARA 313 (TRI)

	Product name	CAS number	%
Form R-Report requirements	Crystalline Silica (Quartz)	14808-60-7	Not regulated

State regulations

Massachusetts RTK:	Listed
New Jersey RTK:	Listed
Pennsylvania RTK:	Listed
Rhode Island RTK:	Not regulated.

California Prop. 65

WARNING: This product contains crystalline silica and chemicals (trace metals) known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Crystalline Silica (Quartz) CAS 14808-60-7	Yes	No	No	No

International regulations

Ingredient name	CAS #	TSCA	Canada	WHMIS	EEC
Crystalline Silica (Quartz)	14808-60-7	Yes	DSL	D2A	EINECS

WHMIS Classification:

D2A "Materials Causing Other Toxic Effects"



Section 16. Other Information

Date of issue: 06/01/2015
 Version: 06/01/2015
 Revised Section(s): N/Ap

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of hot mix asphalt as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with hot mix asphalt to produce hot mix asphalt products. Users should review other relevant material safety data sheets before working with this hot mix asphalt or working on hot mix asphalt products.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS

THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY Lehigh Hanson, except that the product shall conform to contracted specifications. The information provided herein was believed by the Lehigh Hanson to be accurate at the time of preparation or prepared from 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 product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations
DOT — Department of Transportation
GHS — Globally Harmonized System
HEPA — High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit
RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

MATERIAL SAFETY DATA SHEET

SEABOARD ASPHALT PRODUCTS COMPANY
3601 FAIRFIELD ROAD
BALTIMORE, MARYLAND 21226
(410) 355-0330 OR FAX (410) 355-5864

CHEMTREC EMERGENCY
(SPILL, FIRE, EXPOSURE)
DAY OR NIGHT 800-424-9300

SECTION I. PRODUCT IDENTIFICATION

PRODUCT CODE: RC TACK
PRODUCT NAME: Seaboard Asphalt Cutback RC Tack Coat

SECTION II. INGREDIENT INFORMATION

	<u>%</u>	<u>CAS</u>	<u>TLV</u>
Asphalt	40-50	8052-42-4	5 mg/m ³
Mineral Spirits (Stoddard)	35-40	64741-41-9	100 ppm
Hi-Flash solvent	10-20	64742-95-6	100 ppm

This product does not contain any materials listed by OSHA, NTP, or IARC as carcinogens.

SECTION III. HEALTH HAZARD INFORMATION

CAUTION! HEATING MAY RELEASE HYDROGEN SULFIDE GAS (H₂S)

EYE CONTACT: The cool material will cause minor eye irritation. However, thermal burns may result from contact with the hot material. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment. Signs and symptoms may include, pain, tears, swelling, redness and blurred vision. This hazard evaluation is based on the data from similar materials.

SKIN CONTACT: : The cool material will cause minor skin irritation. However, thermal burns may result from contact with the hot material. The degree of the injury will depend on the amount of material that gets on the skin and the speed and thoroughness of the first aid treatment. Signs and symptoms may include: pain, discoloration and swelling. This hazard evaluation is based on data from similar materials.

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if it gets into the skin.

INHALATION: Fumes from the hot material can be unpleasant and may produce nausea and irritation of the upper respiratory tract. If inhaled, this substance is considered practically non-toxic to internal organs. : This substance contains sulfur compounds which may form hydrogen sulfide. the rotten eggs odor of hydrogen sulfide is unreliable as an indicator of concentration. Signs and [symptoms of](#) over exposure to hydrogen sulfide include respiratory tract irritation, headaches, dizziness, nausea, gastrointestinal disturbances, coughing, a sensation of dryness and pain in the nose, throat and chest, confusion and unconsciousness. Hydrogen sulfide concentrations of 1000 -2000 ppm can be extremely hazardous. This hazard evaluation is based on data from similar materials.

INGESTION: This is an unlikely route of entry, however if swallowed, this substance is considered practically non-toxic.

ADDITIONAL HEALTH DATA COMMENT: Studies in which mice were exposed to a variety of whole asphalts did not result in any increased cancer rate; mice exposed to asphalts diluted with hydrocarbon solvents had increased incidence of certain types of cancer. Brief or intermittent skin contact with this asphalt product is not expected to produce any delayed effects. While normal handling of this product is not likely to cause cancer in humans, skin contact and breathing of mists or vapors should be reduced to a minimum.

FIRST AID: EYE CONTACT: Flush eyes, including under eyelids, with running water for at least fifteen minutes. Get medical attention. **SKIN CONTACT:** If the hot, melted material gets on the skin, quickly cool in water. See a doctor for extensive burns. DO NOT try to peel the solidified material from the skin or use solvents or thinners to dissolve it. The use of vegetable oil or mineral oil is recommended for removal of this material from the skin. Flush exposed area with water while removing contaminated clothing. Get medical attention if irritation persists. **INHALATION:** If there are signs or symptoms of hydrogen sulfide exposure(respiratory tract irritation, headache, dizziness, nausea, gastrointestinal disturbances, coughing, a sensations of dryness or pain in the nose, throat and chest, confusion and unconsciousness), move the person to fresh air. If breathing has stopped, apply artificial respiration. Call a doctor. Note to physician: In addition to the use of 100% oxygen and supportive care, suggested treatment for hydrogen sulfide poisoning includes the use of nitrites. This is based on the similar mechanisms of toxicity between hydrogen sulfide and hydrogen cyanide. The nitrite-induced methemoglobin is thought to bind the toxic hydrosulfide ion. Initial inhalation of amyl nitrite pearls for 15 to 30 seconds if each minute should be initiated until 10 ml of a 3% solution of sodium nitrite can be administered intravenously at 2.5 to 5 ml per minute. While the efficacy of nitrites in hydrogen sulfide poisoning has not been unequivocally demonstrated, their use is recommended as part of the treatment regimen. Hyperbaric [oxygen therapy](#) has been used for cyanide poisoning with some success and may be of benefit in hydrogen sulfide poisoning if other measures are ineffective. **INGESTION:** Unlikely, if occurs give person milk or water. Keep head below the waist. Contact a physician or Poison Control Center. Never give anything by mouth to a person who is unconscious or having convulsions.

NFPA RATING: HEALTH - 1 FIRE - 2 REACTIVITY - 0

SECTION IV. FIRE AND EXPLOSION DATA

FLASH POINT AND METHOD: ~ 110 °F Tag open cup

UPPER EXPLOSIVE LIMIT: Not Available

LOWER EXPLOSIVE LIMIT: Not Available

EXTINGUISHING MEDIA: Water, carbon dioxide and dry chemical. Use water spray to cool fire-exposed containers. A fine water mist may be used to smother fire or to disperse vapors. Do not use a solid stream of water since the stream will scatter and spread the fire. Fire fighters must wear self-contained breathing apparatus and full protective clothing when fighting fires involving this material.

SECTION V. REACTIVITY DATA

CAUTION! HEATING MAY RELEASE HYDROGEN SULFIDE GAS (H₂S)

This material is stable in closed containers at room temperature under normal storage and handling conditions. It does not polymerize. It is incompatible with strong oxidizing agents. [Decomposition](#) products can include carbon monoxide, carbon dioxide, and water vapor.

SECTION VI. PHYSICAL DATA

BOILING POINT: ~ 650 °F

APPEARANCE AND ODOR: Black liquid with organic odor

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURE

Notify safety personnel of large spills or leaks. Clean-up personnel need protection against liquid contact and vapor inhalation. Absorb small spills and collect liquid, if feasible, or absorb with vermiculite or sand. Do not flush to sewer or stream.

Dispose of liquid waste via licensed waste disposal company. Follow Federal, State and Local regulation.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Wear impervious gloves and safety glasses to prevent contact with the skin and eyes. If repeated or prolonged contact with liquid is likely, wear protective clothing including boots, apron, and faceshield or splash goggles. Remove contaminated clothing immediately and do not reuse until it has been properly laundered.

Eye wash stations and safety showers should be available in use and handling areas.

Contact lenses pose a special hazard; soft lenses may absorb and all lenses concentrate irritants.

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Store in closed containers in a cool, dry, well-ventilated area away from oxidizers, heat and open flame.

Protect container from physical damage.

Date Prepared: 1/24/00

Revision: 1

Product Name: CAT HYDRAULIC OIL (HYDO) SAE 10W

Revision Date: 13Sep2005

Page 1 of 8

MATERIAL SAFETY DATA SHEET

SECTION 1**PRODUCT AND COMPANY IDENTIFICATION****PRODUCT****Product Name:** CAT HYDRAULIC OIL (HYDO) SAE 10W**Product Description:** Base Oil and Additives**Product Code:** 478909-00, 971670**Intended Use:** Hydraulic/transmission fluid**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**MSDS Requests** 713-613-3661**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 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

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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.

Unusual Fire Hazards: Pressurized mists may form a flammable mixture.

Hazardous Combustion Products: Aldehydes, Oxides of carbon, Smoke, Fume, Sulfur oxides, Incomplete combustion products

FLAMMABILITY PROPERTIES

Flash Point [Method]: >200°C (392°F) [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. U.S. regulations require reporting releases of this material to the environment which exceed the 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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SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Confine the spill immediately with booms. Stop leak if you can do it without risk. 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

Prevent entry into waterways, sewers, basements or confined areas. Large Spills: Dike far ahead of liquid spill for later recovery and disposal.

SECTION 7

HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is a static accumulator.

STORAGE

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.

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

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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. Work conditions can greatly effect glove durability; 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.

GENERAL INFORMATION

Physical State: Liquid

Color: Amber

Odor: Characteristic

Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.878

Flash Point [Method]: >200°C (392°F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

Boiling Point / Range: > 316°C (600°F)

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

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Solubility in Water: Negligible

Viscosity: 37.7 cSt (37.7 mm²/sec) at 40 °C | 6.1 cSt (6.1 mm²/sec) at 100°C

Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION

Freezing Point: N/D

Melting Point: N/A

Pour Point: -18°C (0°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

<u>Route of Exposure</u>	<u>Conclusion / Remarks</u>
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m ³	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 2000 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 assessment of the components.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS

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.

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Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC

3 = IARC 1

5 = IARC 2B

2 = NTP SUS

4 = IARC 2A

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

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 PRECAUTIONARY LABEL TEXT: Empty containers may retain residue 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

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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.

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: TSCA

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
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

* 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.

SECTION 16

OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

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THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

No revision information is available.

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MHC: 0, 0, 0, 0, 0, 0

PPEC: A

DGN: 2004671XUS (546411)

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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Ashland	Regulatory Information Number	1-800-325-3751
P.O. Box 2219	Telephone	614-790-3333
Columbus, OH 43216	Emergency telephone number	1-800-ASHLAND (1-800-274-5263)
Product name	Valvoline® GM MULTIPURPOSE GREASE ® Registered Trademark, Ashland or its subsidiaries	
Product code	VV616	
Product Use Description	No data	

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: solid, amber

CAUTION! PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION.

Potential Health Effects

Exposure routes

Inhalation, Skin contact, Eye Contact, Ingestion

Eye contact

May cause mild eye irritation. Symptoms include stinging, tearing, and redness.

Skin contact

May cause skin irritation. Symptoms may include redness, burning, and swelling of skin.

Ingestion

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation

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It is possible to breathe this material under certain conditions of handling and use (for example, during heating, spraying, or stirring). Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Skin, lung (for example, asthma-like conditions)

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways)

Target Organs

No data

Carcinogenicity

This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

Reproductive hazard

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components	CAS-No.	Concentration
HIGHLY REFINED PETROLEUM OILS		>=80-<90%
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	7620-77-1	>=10-<15%
LITHIUM CARBOXYLATE		>=1.5-<5%
ZINC COMPOUNDS	68649-42-3	>=1.5-<5%

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4. FIRST AID MEASURES

Eyes

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

Skin

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse. Hydrocarbons injected into the skin under pressure can cause severe injury. In the event of a high pressure injection injury, worker should obtain immediate medical assistance.

Ingestion

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

Inhalation

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

Notes to physician

Hazards: Acute aspiration of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Repeated aspiration of small quantities of mineral oil can produce chronic inflammation of the lungs (i.e. lipoid pneumonia) that may progress to pulmonary fibrosis. Symptoms are often subtle and radiological changes appear worse than clinical abnormalities. Occasionally, persistent cough, irritation of the upper respiratory tract, shortness of breath with exertion, fever, and bloody sputum occur. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

Treatment: No information available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

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Water spray, Foam, Dry chemical, Carbon dioxide (CO2)

Hazardous combustion products

carbon dioxide and carbon monoxide, hydrogen sulfide, zinc oxide, oxides of sulfur, nitrogen and phosphorus, Amines

Precautions for fire-fighting

Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). DO NOT direct a solid stream of water or foam into hot, burning pools of liquid since this may cause frothing and increase fire intensity. Frothing can be violent and possibly endanger any firefighter standing too close to the burning liquid. Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

NFPA Flammable and Combustible Liquids Classification

Combustible Liquid Class IIIB

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions

Do not flush into surface water or sanitary sewer system.

Methods for cleaning up

Shovel material into containers and apply oil absorbing material to effect complete clean-up.

Other information

Comply with all applicable federal, state, and local regulations.

7. HANDLING AND STORAGE

Handling

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Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Storage

Store in a cool, dry, ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Eye protection

Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection

Wear resistant gloves such as:

Neoprene

Wear normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.

Respiratory protection

Respiratory protection is not required under normal conditions of use.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	solid
Form	gel
Colour	amber
Odour	no data available
Boiling point/boiling range	no data available
Melting point/range	no data available
Sublimation point	no data available
pH	no data available
Flash point	450 °F / 232 °C
Ignition temperature	no data available
Evaporation rate	no data available
Lower explosion limit/Upper explosion limit	no data available
Particle size	no data available
Vapour pressure	2.000 hPa Calculated Vapor Pressure
Relative vapour density	no data available
Density	0.86 g/cm ³ @ 60.1 °F / 15.6 °C
Bulk density	No data
Water solubility	negligible
Solubility	no data available
Partition coefficient: n-octanol/water	no data available
log Pow	no data available
Autoignition temperature	no data available
Viscosity, dynamic	no data available
Viscosity, kinematic	no data available
Solids in Solution	no data available
Decomposition temperature	no data available
Burning number	no data available
Dust explosion constant	no data available
Minimum ignition energy	no data available

10. STABILITY AND REACTIVITY

Stability
Stable.

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Conditions to avoid
excessive heat

Incompatible products
Strong oxidizing agents

Hazardous decomposition products
carbon dioxide and carbon monoxide

Hazardous reactions
Product will not undergo hazardous polymerization.

Thermal decomposition
No data

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

HIGHLY REFINED PETROLEUM OILS	: no data available
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	: no data available
LITHIUM CARBOXYLATE	: no data available
ZINC COMPOUNDS	: LD 50 Rat: 2,000 - 5,000 mg/kg

Acute inhalation toxicity

HIGHLY REFINED PETROLEUM OILS	: no data available
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	: no data available
LITHIUM CARBOXYLATE	: no data available
ZINC COMPOUNDS	: no data available

Acute dermal toxicity

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HIGHLY REFINED PETROLEUM OILS	: no data available
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	: no data available
LITHIUM CARBOXYLATE	: no data available
ZINC COMPOUNDS	: LD 50 Rabbit: (>) 2,000 mg/kg

12. ECOLOGICAL INFORMATION

Biodegradability

HIGHLY REFINED PETROLEUM OILS	: no data available
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	: no data available
LITHIUM CARBOXYLATE	: no data available
ZINC COMPOUNDS	: no data available

Bioaccumulation

HIGHLY REFINED PETROLEUM OILS	: no data available
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	: no data available
LITHIUM CARBOXYLATE	: no data available
ZINC COMPOUNDS	: no data available

Ecotoxicity effects

Toxicity to fish

HIGHLY REFINED PETROLEUM OILS	: no data available
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	: no data available
LITHIUM CARBOXYLATE	: no data available

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ZINC COMPOUNDS : no data available

Toxicity to daphnia and other aquatic invertebrates.

HIGHLY REFINED PETROLEUM OILS : no data available

OCTADECANOIC ACID, 12-HYDROXY-,
MONOLITHIUM SALT : no data available

LITHIUM CARBOXYLATE : no data available

ZINC COMPOUNDS : no data available

Toxicity to algae

HIGHLY REFINED PETROLEUM OILS : no data available

OCTADECANOIC ACID, 12-HYDROXY-,
MONOLITHIUM SALT : no data available

LITHIUM CARBOXYLATE : no data available

ZINC COMPOUNDS : no data available

Toxicity to bacteria

HIGHLY REFINED PETROLEUM OILS : no data available

OCTADECANOIC ACID, 12-HYDROXY-,
MONOLITHIUM SALT : no data available

LITHIUM CARBOXYLATE : no data available

ZINC COMPOUNDS : no data available

Biochemical Oxygen Demand (BOD)

HIGHLY REFINED PETROLEUM OILS : no data available

OCTADECANOIC ACID, 12-HYDROXY-,
MONOLITHIUM SALT : no data available

LITHIUM CARBOXYLATE : no data available

ZINC COMPOUNDS : no data available

Chemical Oxygen Demand (COD)

HIGHLY REFINED PETROLEUM OILS : no data available

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OCTADECANOIC ACID, 12-HYDROXY-,
MONOLITHIUM SALT : no data available
LITHIUM CARBOXYLATE : no data available

ZINC COMPOUNDS : no data available

Additional ecological information

HIGHLY REFINED PETROLEUM OILS : no data available

OCTADECANOIC ACID, 12-HYDROXY-,
MONOLITHIUM SALT : no data available
LITHIUM CARBOXYLATE : no data available

ZINC COMPOUNDS : no data available

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

14. TRANSPORT INFORMATION

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT /LTD. QTY.
--------------	----------------------	------------------	-----------------------	------------------	-----------------------------------

U.S. DOT - ROAD

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

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Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

TRANSPORT CANADA - RAIL

Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Not dangerous goods

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

California Prop. 65

Proposition 65 warnings are not required for this product based on the results of a risk assessment.	
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SARA Hazard Classification

Valvoline® GM MULTIPURPOSE GREASE
® Registered Trademark, Ashland or its
subsidiaries
VV616

No SARA Hazards

SARA 313 Component(s)

ZINC COMPOUNDS 1.99 %

New Jersey RTK Label Information

HIGHLY REFINED PETROLEUM OILS	
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	7620-77-1
LITHIUM CARBOXYLATE	
ZINC COMPOUNDS	68649-42-3
PROPRIETARY LUBRICANT ADDITIVE	

Pennsylvania RTK Label Information

HIGHLY REFINED PETROLEUM OILS	
OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT	7620-77-1
LITHIUM CARBOXYLATE	

Notification status

US. Toxic Substances Control Act	y (positive listing)
Australia. Industrial Chemical (Notification and Assessment) Act	y (positive listing)
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	n (Negative listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	y (positive listing)
Japan. Kashin-Hou Law List	y (positive listing)
Korea. Toxic Chemical Control Law (TCCL) List	y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	y (positive listing)
China. Inventory of Existing Chemical Substances	y (positive listing)

	HMIS	NFPA
Health	1	1
Flammability	1	1
Physical hazards	0	
Instability		0
Specific Hazard	--	--

Valvoline® GM MULTIPURPOSE GREASE
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subsidiaries
VV616

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

QUIKRETE®**CEMENT & CONCRETE PRODUCTS™**

Masonry Mortars

MATERIAL SAFETY DATA SHEET (Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30329

Emergency Telephone Number
(770) 216-9580

Information Telephone Number
(770) 216-9580

MSDS E1
Revision: May-12

QUIKRETE® Product Name**Code #**

MORTAR MIX	1102
MASON MIX	1136
GLASS BLOCK MORTAR	1610
ROOF TILE MORTAR	1140
CSC-4	1191-84
VENEER STONE MORTAR	1137
POLYMER MODIFIED VENEER STONE MORTAR	1137-85
QUIKRETE® PRO-FINISH BLENDED MORTAR MIX	1136-58
ALL-STAR MORTAR MIX	1122
ALL-STAR MASON MIX	1136
ALL-STAR VENEER STONE MORTAR	1137
HANDICRETE MORTAR MIX	
NATURAL STONE MORTAR	
RED-E-CRETE MORTAR	

BULK MASONRY MORTARS: MIX 101M, 102 S, 104 N, 112 M, 112 N, 112 S, 122 M, 122 N, 122 S, 132 S, 142, 201 M, 202 PLN, 202 S, 203 PLS, 203 S, 203 N, 204 N, 205 P/L type O, 203 M, 212 M, 212 N, 212 S, 222 M, 222 S, 253 S, 294 N

PRODUCT USE: MASONRY MORTARS FOR CONSTRUCTION WITH BLOCK, BRICK, VENEER STONES, ETC.



SECTION II - HAZARD IDENTIFICATION

Route(s) of Entry: Inhalation, Skin, Ingestion

Acute Exposure: Product becomes alkaline when exposed to moisture. Exposure can dry the skin, cause alkali burns and affect the mucous membranes. Dust can irritate the eyes and upper respiratory system. Toxic effects noted in animals include, for acute exposures, alveolar damage with pulmonary edema.

Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis.

Carcinogenicity: Since Portland cement and blended cements are manufactured from raw materials mined from the earth (limestone, marl, sand, shale, etc.) and process heat is provided by burning fossil fuels, trace, but detectable, amounts of naturally occurring, and possibly harmful, elements may be found during chemical

**CEMENT & CONCRETE PRODUCTS™**

analysis. Under ASTM standards, Portland cement may contain 0.75 % insoluble residue. A fraction of these residues may be free crystalline silica. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs and possibly cancer. There is evidence that exposure to respirable silica or the disease silicosis is associated with an increased incidence of Scleroderma, tuberculosis and kidney disorders.

Carcinogenicity Listings:

NTP:	Known carcinogen
OSHA:	Not listed as a carcinogen
IARC Monographs:	Group 1 Carcinogen
California Proposition 65:	Known carcinogen

NTP: The National Toxicology Program, in its "Ninth Report on Carcinogens" (released May 15, 2000) concluded that "Respirable crystalline silica (RCS), primarily quartz dusts occurring in industrial and occupational settings, is *known to be a human carcinogen*, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to RCS and increased lung cancer rates in workers exposed to crystalline silica dust (reviewed in IAC, 1997; Brown *et al.*, 1997; Hind *et al.*, 1997)

IARC: The International Agency for Research on Cancer ("IARC") concluded that there was "*sufficient evidence* in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources", and that there is "*sufficient evidence* in experimental animals for the carcinogenicity of quartz or cristobalite." The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is *carcinogenic to humans* (Group 1)." The IARC evaluation noted that "carcinogenicity was not detected in all industrial circumstances or studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." For further information on the IARC evaluation, see IARC Monographs on the Evaluation of carcinogenic Risks to Humans, Volume 68, "Silica, Some Silicates." (1997)

Signs and Symptoms of Exposure: Symptoms of excessive exposure to the dust include shortness of breath and reduced pulmonary function. Excessive exposure to skin and eyes especially when mixed with water can cause caustic burns as severe as third degree.

Medical Conditions Generally Aggravated by Exposure: Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure. Exposure to crystalline silica or the disease silicosis is associated with increased incidence of scleroderma, Tuberculosis and possibly increased incidence of kidney lesions.

Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis. (May contain trace (<0.05 %) amounts of chromium salts or compounds including hexavalent chromium, or other metals found to be hazardous or toxic in some chemical forms. These metals are mostly present as trace substitutions within the principal minerals)

Medical Conditions Generally Aggravated by Exposure: Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure.

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components	CAS No.	PEL (OSHA)	TLV (ACGIH)
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CEMENT & CONCRETE PRODUCTS™

Portland Cement	65997-15-1	mg/M ³ 5	mg/M ³ 5
Silica Sand, crystalline	14808-60-7	$\frac{10}{\%SiO_2+2}$	0.05 (respirable)

May contain one or more of the following ingredients:

Lime	01305-62-0	5	5
Pulverized Limestone	01317-65-3	5	5
Iron Oxide Pigments	01309-37-1	5	5
Clay	01332-58-7	5	5

Other Limits: National Institute for Occupational Safety and Health (NIOSH). Recommended standard maximum permissible concentration=0.05 mg/M³ (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40-hour work week. See NIOSH Criteria for a Recommended Standard Occupational Exposure to Crystalline Silica.

SECTION IV – First Aid Measures

Eyes: Immediately flush eye thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

Skin: Wash skin with cool water and pH-neutral soap or a mild detergent. Seek medical treatment if irritation or inflammation develops or persists. Seek immediate medical treatment in the event of burns.

Inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Seek medical help if coughing and other symptoms do not subside. Inhalations of large amounts of Portland cement require immediate medical attention.

Ingestion: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

SECTION V - FIRE AND EXPLOSION HAZARD DATA

Flammability: Noncombustible and not explosive.

Auto-ignition Temperature: Not Applicable

Flash Points: Not Applicable

SECTION VI – ACCIDENTAL RELEASE MEASURES

If spilled, use dustless methods (vacuum) and place into covered container for disposal (if not contaminated or wet). Use adequate ventilation to keep exposure to airborne contaminants below the exposure limit.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

Do not allow water to contact the product until time of use. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended.

SECTION VIII – EXPOSURE CONTROL MEASURES

**CEMENT & CONCRETE PRODUCTS™**

Engineering Controls: Local exhaust can be used, if necessary, to control airborne dust levels.

Personal Protection: The use of barrier creams or impervious gloves, boots and clothing to protect the skin from contact is recommended. Following work, workers should shower with soap and water. Precautions must be observed because burns occur with little warning -- little heat is sensed.

WARN EMPLOYEES AND/OR CUSTOMERS OF THE HAZARDS AND REQUIRED OSHA PRECAUTIONS ASSOCIATED WITH THE USE OF THIS PRODUCT.

Exposure Limits: Consult local authorities for acceptable exposure limits

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance: Gray to gray-brown colored powder;

Specific Gravity: 2.6 to 3.15

Boiling Point: >2700°F

Vapor Density: Not Available

Solubility in Water: Slight

Melting Point:

Vapor Pressure:

Evaporation Rate:

Odor:

>2700°F

Not Available

Not Available

Not Available

SECTION X - REACTIVITY DATA

Stability: Stable.

Incompatibility (Materials to Avoid): Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires

Hazardous Decomposition or By-products: Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

Hazardous Polymerization: Will Not Occur.

Condition to Avoid: Keep dry until used to preserve product utility.

SECTION XI – TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, Ingestion

Toxicity to Animals:

LD50: Not Available

LC50: Not Available

Chronic Effects on Humans: Conditions aggravated by exposure include eye disease, skin disorders and Chronic Respiratory conditions.

Special Remarks on Toxicity: Not Available

SECTION XII – ECOLOGICAL INFORMATION

Ecotoxicity: Not Available

BOD5 and COD: Not Available

Products of Biodegradation: Not available

Toxicity of the Products of Biodegradation: Not available

Special Remarks on the Products of Biodegradation: Not available

SECTION XIII – DISPOSAL CONSIDERATIONS


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Waste Disposal Method: The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302).

SECTION XIV – TRANSPORT INFORMATION

Not hazardous under U.S. DOT and TDG regulations.

SECTION XV – OTHER REGULATORY INFORMATION

US OSHA 29CFR 1910.1200: Considered hazardous under this regulation and should be included in the employers' hazard communication program

SARA (Title III) Sections 311 & 312: Qualifies as a hazardous substance with delayed health effects

SARA (Title III) Section 313: Not subject to reporting requirements

TSCA (May 1997): Some substances are on the TSCA inventory list

Federal Hazardous Substances Act: Is a hazardous substance subject to statutes promulgated under the subject act

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

Canadian Environmental Protection Act: Not listed

Canadian WHMIS: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations (Class D2A, E- Corrosive Material) and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This product has been classified according to the hazard criteria of the Controlled Products Regulation (CPR). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

SECTION XVI – OTHER INFORMATION

HMIS-III:	Health –	0 = No significant health risk
		1 = Irritation or minor reversible injury possible
		2 = Temporary or minor injury possible
		3 = Major injury possible unless prompt action is taken
		4 = Life threatening, major or permanent damage possible
	Flammability-	0 = Material will not burn
		1 = Material must be preheated before ignition will occur
		2 = Material must be exposed to high temperatures before ignition
		3 = Material capable of ignition under normal temperatures
		4 = Flammable gases or very volatile liquids; may ignite spontaneously
	Physical Hazard-	0 = Material is normally stable, even under fire conditions
		1 = Material normally stable but may become unstable at high temps
2 = Materials that are unstable and may undergo react at room temp		
3 = Materials that may form explosive mixtures with water		
		4 = Materials that are readily capable of explosive water reaction

Abbreviations:

ACGIH

American Conference of Government Industrial Hygienists

**CEMENT & CONCRETE PRODUCTS™**

CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CPR	Controlled Products Regulations (Canada)
DOT	Department of Transportation
IARC	International Agency for Research
MSHA	Mine Safety and Health Administration
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicity Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TWA	Time-weighted Average
WHMIS	Workplace Hazardous Material Information System

Last Updated: May 8, 2012

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products. END OF MSDS.

Material Safety Data Sheet

Fastite 27-A Pipe Joint Lubricant

Date of Preparation: August 1998/Revised 4/2006

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Fastite 27-A Pipe Joint Lubricant**Chemical Formula:** 88-6**Manufacturer:** JTM Products, Inc., 31025 Carter Street, Solon, OH 44139, Phone (440) 287-2302, FAX (440) 287-3095
(CHEM-TEL 24-hour emergency: (800) 255-3924)

Section 2 - Composition / Information on Ingredients

Proprietary blend of soap [CAS#61790-44-1], glycol [CAS#57-55-6] and filler [CAS#12001-26-2].
revised February 2005 - John Cahoon

Section 3 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Potential Health Effects

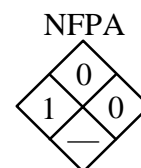
Primary Entry Routes: Not Hazardous**Carcinogenicity:** IARC, NTP, and OSHA do not list the ingredients in Fastite 27-A Pipe Joint Lubricant as carcinogens.

HMIS
H 1
F 0
R 0
PPE †
†Sec. 8

Section 4 - First Aid Measures

Eye Contact: Flush with copious volumes of water for 15 minutes while holding eyelids open.**Skin Contact:** Wash with water.*If irritation persists, call a physician.*

Section 5 - Fire-Fighting Measures

Flash Point: >220 °F (>104 °C)**LEL:** NA**Flash Point Method:** NA, contains water**UEL:** NA**Autoignition Temperature:** NA**Flammability Classification:** 0**Extinguishing Media:** Water, water fog, alcohol foam, carbon dioxide or dry chemical are all suitable.**Unusual Fire or Explosion Hazards:** None**Hazardous Combustion Products:** None**Fire-Fighting Instructions:** Do not release runoff from fire control methods to sewers or waterways.**Fire-Fighting Equipment:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill /Leak Procedures: This product is a biodegradable soap.**Containment:** For large spills, dike far ahead of spill for later disposal.**Cleanup:** Place the bulk of any spilled material into drums, then rinse any remaining material to sewage treatment facility, in accordance with any applicable regulations.**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - Handling and Storage

Handling Precautions: No special precautions are required.**Storage Requirements:** No special precautions are required.**Regulatory Requirements:** No known regulatory requirement for handling and storage.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls:**Ventilation:** Provide general or local exhaust ventilation systems.**Administrative Controls:****Respiratory Protection:** If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Fastite 27-A Pipe Joint Lubricant

Protective Clothing/Equipment: Wear chemically protective gloves to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Paste	Water Solubility: complete solubility in water
Appearance and Odor: amber paste, bland odor	Boiling Point: >220 °F
Odor Threshold: NA	Freezing/Melting Point: <32 °F
Vapor Pressure: NA	Viscosity: viscous paste
Vapor Density (Air=1): NA	Refractive Index: unknown
Formula Weight: NA (blend)	Surface Tension: unknown
Density: 8.3 lbs./gal.	% Volatile: 28 [Revised April 2006]
Specific Gravity (H₂O=1, at 4 °C): 1.0	Evaporation Rate: NA
pH: 11	

Section 10 - Stability and Reactivity

Stability: Fastite 27-A Pipe Joint Lubricant is stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization will not occur.

Chemical Incompatibilities:

Conditions to Avoid: Avoid contact with strong oxidizing agents. [Revised April 2006]

Hazardous Decomposition Products: Thermal oxidative decomposition of Fastite 27-A Pipe Joint Lubricant can produce oxides of carbon and nitrogen.

Section 11- Toxicological Information**Toxicity Data:**

Eye Effects: Eye irritant [based on blended ingredients].

Skin Effects: Slight skin irritant if allowed to remain in contact.

Section 12 - Ecological Information

Ecotoxicity: Environmental Fate

Environmental Transport: Unknown. **Environmental Degradation:** Soaps are well known to be biodegradable.

Soil Absorption/Mobility: Unknown.

Section 13 - Disposal Considerations

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

Section 14 - Transport Information

Not hazardous under DOT regulations.

Section 15 - Regulatory Information

EPA Regulations: None apply.

Section 16 - Other Information

Prepared By: B. Noragon **Approved By:** B. Roll

Disclaimer: JTM PRODUCTS, INC. makes no warranty, expressed or implied, as to the accuracy, completeness, or reliability of information contained herein, except that such information is, to the best of JTM's knowledge and belief, accurate as of the date indicated. It is for the purchaser and/or user to decide whether this information is suitable for his purposes.

Reviewed/Section 2 revised February 2005 by John Cahoon; Reviewed/Section 9 & 10 revised April 2006 by John Cahoon

Propane

Section 1. Identification

GHS product identifier	: Propane
Chemical name	: propane
Other means of identification	: Propyl hydride; n-Propane; Dimethyl methane; Bottled gas; propane in gaseous state; propane liquefied, n-Propane; Dimethylmethane; Freon 290; Liquefied petroleum gas; Lpg; Propyl hydride; R 290; C3H8; UN 1075; UN 1978; A-108; Hydrocarbon propellant.
Product use	: Synthetic/Analytical chemistry.
Synonym	: Propyl hydride; n-Propane; Dimethyl methane; Bottled gas; propane in gaseous state; propane liquefied, n-Propane; Dimethylmethane; Freon 290; Liquefied petroleum gas; Lpg; Propyl hydride; R 290; C3H8; UN 1075; UN 1978; A-108; Hydrocarbon propellant.
SDS #	: 001045
Supplier's details	: Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
24-hour telephone	: 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Liquefied gas

GHS label elements**Hazard pictograms****Signal word**

: Danger

Hazard statements

: Extremely flammable gas.
Contains gas under pressure; may explode if heated.
May cause frostbite.
May form explosive mixtures in Air.
May displace oxygen and cause rapid suffocation.

Precautionary statements**General**

: Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position. Approach suspected leak area with caution.

Prevention

: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response

: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Storage

: Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.

Section 2. Hazards identification

- Disposal** : Not applicable.
- Hazards not otherwise classified** : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Section 3. Composition/information on ingredients

- Substance/mixture** : Substance
- Chemical name** : propane
- Other means of identification** : Propyl hydride; n-Propane; Dimethyl methane; Bottled gas; propane in gaseous state; propane liquefied, n-Propane; Dimethylmethane; Freon 290; Liquefied petroleum gas; Lpg; Propyl hydride; R 290; C3H8; UN 1075; UN 1978; A-108; Hydrocarbon propellant.

CAS number/other identifiers

CAS number : 74-98-6

Product code : 001045

Ingredient name	%	CAS number
Propane	100	74-98-6

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Frostbite** : Try to warm up the frozen tissues and seek medical attention.
- Ingestion** : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.

Section 4. First aid measures

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Section 6. Accidental release measures

- Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Propane	NIOSH REL (United States, 10/2013). TWA: 1800 mg/m ³ 10 hours. TWA: 1000 ppm 10 hours. OSHA PEL (United States, 2/2013). TWA: 1800 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 1800 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours.

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Gas. [Liquefied compressed gas.]
- Color** : Colorless.
- Molecular weight** : 44.11 g/mole
- Molecular formula** : C₃H₈
- Boiling/condensation point** : -161.48°C (-258.7°F)
- Melting/freezing point** : -187.6°C (-305.7°F)
- Critical temperature** : 96.55°C (205.8°F)
- Odor** : Odorless.BUT MAY HAVE SKUNK ODOR ADDED.
- Odor threshold** : Not available.
- pH** : Not available.
- Flash point** : Closed cup: -104°C (-155.2°F)
Open cup: -104°C (-155.2°F)
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials.
- Lower and upper explosive (flammable) limits** : Lower: 1.8%
Upper: 8.4%
- Vapor pressure** : 109 (psig)
- Vapor density** : 1.6 (Air = 1)

Section 9. Physical and chemical properties

Specific Volume (ft³/lb)	: 8.6206
Gas Density (lb/ft³)	: 0.116 (25°C / 77 to °F)
Relative density	: Not applicable.
Solubility	: Not available.
Solubility in water	: 0.0244 g/l
Partition coefficient: n-octanol/water	: 1.09
Auto-ignition temperature	: 287°C (548.6°F)
Decomposition temperature	: Not available.
SADT	: Not available.
Viscosity	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Incompatible materials	: Oxidizers
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

IDLH : 2100 ppm

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Section 11. Toxicological information

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Propane	1.09	-	low

Mobility in soil






Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1978	UN1978	UN1978	UN1978	UN1978
UN proper shipping name	PROPANE	PROPANE	PROPANE	PROPANE	PROPANE
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environment	No.	No.	No.	No.	No.
Additional information	Limited quantity Yes. Packaging instruction Passenger aircraft Quantity limitation: Forbidden. Cargo aircraft Quantity limitation: 150 kg Special provisions 19, T50	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2). Explosive Limit and Limited Quantity Index 0.125 ERAP Index 3000	-	-	Passenger and Cargo Aircraft Quantity limitation: 0 Forbidden Cargo Aircraft Only Quantity limitation: 150 kg

Section 14. Transport information

		<u>Passenger Carrying Ship Index</u> 65 <u>Passenger Carrying Road or Rail Index</u> Forbidden <u>Special provisions</u> 29, 42			
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“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
United States inventory (TSCA 8b): This material is listed or exempted.
Clean Air Act (CAA) 112 regulated flammable substances: propane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Sudden release of pressure

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Propane	100	Yes.	Yes.	No.	No.	No.

State regulations

Massachusetts : This material is listed.

New York : This material is not listed.

Section 15. Regulatory information

New Jersey : This material is listed.

Pennsylvania : This material is listed.

International regulations

International lists

National inventory

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China : This material is listed or exempted.

Europe : This material is listed or exempted.

Japan : This material is listed or exempted.

Malaysia : This material is listed or exempted.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.

Republic of Korea : This material is listed or exempted.

Taiwan : This material is listed or exempted.

Canada

WHMIS (Canada) : Class A: Compressed gas.
Class B-1: Flammable gas.
CEPA Toxic substances: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

Section 16. Other information

Canada Label requirements : Class A: Compressed gas.
Class B-1: Flammable gas.

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

Health	*	1
Flammability		4
Physical hazards		2

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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



Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Section 16. Other information

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
Flam. Gas 1, H220 Press. Gas Liq. Gas, H280	Expert judgment Expert judgment

History

Date of printing : 10/20/2015
Date of issue/Date of revision : 10/20/2015
Date of previous issue : No previous validation
Version : 0.01

Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Other special considerations : The information below is given to call attention to the issue of "Naturally occurring radioactive materials". Although Radon-222 levels in the product represented by this MSDS do not present any direct Radon exposure hazard, customers should be aware of the potential for Radon daughter build up within their processing systems, whatever the source of their product streams. Radon-222 is a naturally occurring radioactive gas which can be a contaminant in natural gas. During subsequent processing, Radon tends to be concentrated in Liquefied Petroleum Gas streams and in product streams having a similar boiling point range. Industry experience has shown that this product may contain small amounts of Radon-222 and its radioactive decay products, called Radon "daughters". The actual concentration of Radon-222 and radioactive daughters in the delivered product is dependent on the geographical source of the natural gas and storage time prior to delivery. Process equipment (i.e. lines, filters, pumps and reaction units) may accumulate significant levels of radioactive daughters and show a gamma radiation reading during operation. A potential external radiation hazard exists at or near any pipe valve or vessel containing a Radon enriched stream, or containing internal deposits of radioactive material due to the transmission of gamma radiation through its wall. Field studies reported in the literature have not shown any conditions that subject workers to cumulative exposures in excess of general population limits. Equipment emitting gamma radiation should be presumed to be internally contaminated with alpha emitting decay products which may be a hazard if inhaled or ingested. Protective equipment such as coveralls, gloves, and respirator (NIOSH/MHSA approved for high efficiency particulates and radionuclides, or supplied air) should be worn by personnel entering a vessel or working on contaminated process equipment to prevent skin contamination, ingestion, or inhalation of any residues containing alpha radiation. Airborne contamination may be minimized by handling scale and/or contaminated materials in a wet state.

Notice to reader

Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Technical Specification

Regular Clear PVC Cement

Description

- Regular-Bodied Clear cement for use on all schedules and classes of PVC pipe and fittings up to 4" for Sch. 40 and up to 2" for Sch. 80.
- Lo-V.O.C. Solvent Cement meets California South Coast Air Quality Management District (SCAQMD) 1168/316A or BAAQMD Method 40 and various environmental requirements.
- Recommended for potable water, pressure pipe, conduit and DWV.
- Recommended application temperature 40°F to 110°F / 4°C to 43°C.
- Meets ASTM D-2564.



Listings



NSF Standard 61 for PW,
DWV and Sewer Waste



IAPMO Listed

Maximum VOC per SCAQMD 1168/316A or BAAQMD Method 40: 510 g/L

INGREDIENTS (CAS Number)

Acetone (67-64-1), Amorphous Silica (112945-52-5), Cyclohexanone (108-94-4), Methyl Ethyl Ketone (78-93-3), PVC Resin (9002-86-2), Tetrahydrofuran (109-99-9)

MSDS Number: 1100E

<u>Product Number</u>	<u>Size</u>	<u>Qty</u>	<u>Wgt</u>	<u>Product Number</u>	<u>Size</u>	<u>Qty</u>	<u>Wgt</u>
31012	4 oz.	24	9 lbs.	310123	4 oz.	48	8 lbs.
31013	8 oz.	24	15 lbs.	310133	8 oz.	36	15 lbs.
31014	16 oz.	24	28 lbs.	310143	16 oz.	10	28 lbs.
31015	32 oz.	12	27 lbs.	310153	32 oz.	6	27 lbs.
31016	Gallon	6	50 lbs.				

Oatey Co.
4700 West 160 th St.
Cleveland, OH 44135

Phone: 1-800-321-9532
Phone: 1-800-321-9535
Visit www.oatey.com for Update





Technical Specification

Regular Clear PVC Cement

CHEMICAL PROPERTIES

Appearance	Clear Liquid
Viscosity	Min. 90 cps @73° F ± 2° F
Density	7.47 ± 0.2 lbs/gallon
Shelf Life	3 years from manufacture date

PHYSICAL PROPERTIES

Lap Shear Strength	(min. ASTM Standards)
2 hours	250 psi
16 hours	500 psi
72 hours	900 psi
Set Up Time	
30° F to 50° F	6 – 7 minutes
50° F to 70° F	4 – 5 minutes
70° F to 90° F	1 – 3 minutes

Precautions

Read all information carefully before using this product.

DANGER!: CAUSES SERIOUS EYE IRRITATION. HARMFUL IF INHALED. MAY CAUSE DROWSINESS OR DIZZINESS. MAY CAUSE RESPIRATORY IRRITATION. REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING. Long term overexposure to solvents may cause damage to the brain, nervous system, reproductive system, respiratory system, mucous membranes, liver and kidneys. Contains a chemical classified by the US EPA as a suspected possible carcinogen. KEEP OUT OF REACH OF CHILDREN.

PRECAUTIONS: Avoid breathing vapors. Use only outdoors or in a well-ventilated area. Use explosion-proof electrical/ventilating equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear a NIOSH-approved respirator for organic solvents. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Vapors may accumulate in low places and may ignite explosively. Keep container tightly closed and cool. Wear protective gloves and eye protection. Wash thoroughly after handling. Do not eat or drink while using this product.

EMERGENCY/FIRST AID: CALL 1-877-740-5015 FOR INSTRUCTIONS.

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Rinse mouth. This product may be aspirated into the lungs and cause chemical pneumonitis, a potentially fatal condition. If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention. If ON SKIN: Rinse skin with water/shower. Take off immediately all contaminated clothing. If INHALED: Remove person to fresh air and keep comfortable for breathing. Call POISON CENTER/doctor if you feel unwell. If medical advice is needed, have product container or label at hand. FIRE: Use dry chemical, foam, or carbon dioxide extinguisher. Water spray may be applied to reduce potential vapors or for cooling. Burning liquid extinguished with water will float and may re-ignite on surface of water. SPILLS: Remove all sources of ignition and ventilate area. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with absorbent material. Put absorbent material in covered, labeled metal containers. Dispose of contents/ container in accordance with local regulations. Store in a well-ventilated space. Store locked up.

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**Directions for Use**

Store and use at temperatures between 40°F and 110°F. At temperatures outside of this range, special care must be taken to prepare good joints and prevent exposure to solvents. Stir or shake before using; if jelly-like, don't use. Do not thin.

1. Cut pipe ends square, chamfer and clean pipe ends.
2. Check dry fit of pipe and fitting. Pipe should easily go 1/3 of the way into the fitting. If pipe bottoms, it should be snug.
3. Use a suitable applicator at least 1/2 the size of the pipe diameter. For larger size pipe systems use a natural bristle brush or roller.
4. Clean pipe and fitting with a listed primer.
5. Apply liberal coat of cement to pipe to the depth of the socket, leave no uncoated surface.
6. Apply a thin coat of cement to inside of fitting, avoid puddling of cement. Puddling can cause weakening and premature failure of pipe or fitting. Apply a second coat of cement to the pipe.
7. Assemble parts QUICKLY. Cement must be fluid. If cement surface has dried, recoat both parts.
8. Push pipe FULLY into fitting using a ¼ turning motion until pipe bottoms.
9. Hold pipe and fitting together for 30 seconds to prevent pipe push-out - longer at low temperatures. Wipe off excess.
10. Allow 15 minutes for good handling strength and 2 hours cure time at temperatures above 60°F before pressure testing up to 180 psi. Longer cure times may be required at temperatures below 60°F or with pipe above 3".

DO NOT TEST WITH AIR.

Revision Date: 3/15/2013

1. Identification

Product identifier	Oatey Purple Primer- NSF Listed for PVC and CPVC
Other means of identification	
Product code	1402E
Synonyms	Part Numbers: 30755(TV), 30756(TV), 30757(TV), 30758, 30759, 30927
Recommended use	Joining PVC Pipes
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company Name	Oatey Co.
Address	4700 West 160th St. Cleveland, OH 44135
Telephone	216-267-7100
E-mail	info@oatey.com
Transport Emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency First Aid	1-877-740-5015
Contact person	MSDS Coordinator

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.



Disposal

Hazard(s) not otherwise classified (HNOC)

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen.

Supplemental information

Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Acetone	67-64-1	25-40
Cyclohexanone	108-94-1	25-40
Furan, Tetrahydro-	109-99-9	15-30
Methyl ethyl ketone	78-93-3	15-30

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Acetone (CAS 67-64-1)	PEL	2400 mg/m3 1000 ppm
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m3 50 ppm
Furan, Tetrahydro- (CAS 109-99-9)	PEL	590 mg/m3 200 ppm
Methyl ethyl ketone (CAS 78-93-3)	PEL	590 mg/m3 200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm
	TWA	20 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Methyl ethyl ketone (CAS 78-93-3)	TWA	50 ppm
	STEL	300 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m3
		25 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	735 mg/m3
		250 ppm
Methyl ethyl ketone (CAS 78-93-3)	TWA	590 mg/m3
		200 ppm
	STEL	885 mg/m3
		300 ppm
	TWA	590 mg/m3
		200 ppm

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
	8 mg/l	Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines**US - California OELs: Skin designation**

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1)

Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

Furan, Tetrahydro- (CAS 109-99-9)

Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Face shield is recommended. Wear safety glasses with side shields (or goggles).

202 Skin protection**Hand protection**

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance****Physical state**

Liquid.

Form

Translucent liquid.

Color

Purple

Odor

Solvent.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

151 °F (66.11 °C)

Flash point

14.0 - 23.0 °F (-10.0 - -5.0 °C)

Evaporation rate

5.5 - 8

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits**Flammability limit - lower (%)**

1.8

Flammability limit - upper (%)

11.8

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

145 mm Hg @ 20 °C

Vapor density

2.5

Relative density

0.84 +/- 0.02 @20°C

Solubility(ies)**Solubility (water)**

Negligible

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

Not available.

Decomposition temperature

Not available.

Viscosity

Not available.

Other information**Bulk density**

7 lb/gal

VOC (Weight %)

505 g/l SQACMD Method 24

10. Stability and reactivity**Reactivity**

The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability

Material is stable under normal conditions.

Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials

Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics

Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	20 ml/kg
<i>Inhalation</i>		
LC50	Rat	50 mg/l, 8 Hours
<i>Oral</i>		
LD50	Rat	5800 mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	948 mg/kg
<i>Inhalation</i>		
LC50	Rat	8000 ppm, 4 hours
<i>Oral</i>		
LD50	Rat	1540 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1) 3 Not classifiable as to carcinogenicity to humans.

204 OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be fatal if swallowed and enters airways.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
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Components	Species	Test Results
Acetone (CAS 67-64-1)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) > 100 mg/l, 96 hours
Cyclohexanone (CAS 108-94-1)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 481 - 578 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
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Bioaccumulative potential	No data available.
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Partition coefficient n-octanol / water (log Kow)	
Acetone (CAS 67-64-1)	-0.24
Cyclohexanone (CAS 108-94-1)	0.81
Furan, Tetrahydro- (CAS 109-99-9)	0.46
Methyl ethyl ketone (CAS 78-93-3)	0.29

Mobility in soil	No data available.
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Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
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13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT	
UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (Methyl ethyl ketone RQ = 26274 LBS, Acetone RQ = 13130 LBS)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II

205

Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED
Furan, Tetrahydro- (CAS 109-99-9)	LISTED
Methyl ethyl ketone (CAS 78-93-3)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1) 6532

Methyl ethyl ketone (CAS 78-93-3) 6714

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1) 35 %WV

Methyl ethyl ketone (CAS 78-93-3) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1) 6532

Methyl ethyl ketone (CAS 78-93-3) 6714

US state regulations

US. Massachusetts RTK - Substance List

Acetone (CAS 67-64-1)

Cyclohexanone (CAS 108-94-1)

Furan, Tetrahydro- (CAS 109-99-9)

Methyl ethyl ketone (CAS 78-93-3)

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

Acetone (CAS 67-64-1)

Cyclohexanone (CAS 108-94-1)

Furan, Tetrahydro- (CAS 109-99-9)

Methyl ethyl ketone (CAS 78-93-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)

Cyclohexanone (CAS 108-94-1)

Furan, Tetrahydro- (CAS 109-99-9)

Methyl ethyl ketone (CAS 78-93-3)

US. Rhode Island RTK

Acetone (CAS 67-64-1)

Cyclohexanone (CAS 108-94-1)

Furan, Tetrahydro- (CAS 109-99-9)

Methyl ethyl ketone (CAS 78-93-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	27-May-2015
Revision date	-
Version #	01
HMIS® ratings	Health: 2 Flammability: 3 Physical hazard: 0



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

Version: 1.7
11/07/2012**IS 808 - translucent
SILICONE INDUSTRIAL SEALANT****1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Manufacturer Name: Momentive Performance Materials LLC
260 Hudson River Road
Waterford NY 12188

Revised: 11/07/2012

Prepared by Product Regulatory Compliance
CHEMTREC 1-800-424-9300
MSDS Contact 1-888-443-9466
Information 4information@momentive.com

Chemical Family/Use: Sealant

Formula: Mixture

HMIS

Health: 1 Flammability: 1 Reactivity: 0

NFPA

Health: 1 Flammability: 1 Reactivity: 0

2. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

WARNING! Irritating to eyes, respiratory system and skin. May be harmful if swallowed. Adverse liver and reproductive effects reported in animals.

Form: Paste

Form: Colorless

Odor: Acetic acid.

POTENTIAL HEALTH EFFECTS**INGESTION**

May be harmful if swallowed.

SKIN

Uncured product contact will irritate lips, gums and tongue. Skin irritation is possible after contact with the uncured product.

INHALATION

Applies in uncured state.

EYES

Eye irritation is possible after contact with the uncured product.

MEDICAL CONDITIONS AGGRAVATED

None known.

Version: 1.7
11/07/2012**IS 808 - translucent
SILICONE INDUSTRIAL SEALANT****SUBCHRONIC (TARGET ORGAN)**

Liver; Reproductive hazard.

CHRONIC EFFECTS / CARCINOGENICITY

This product or one of its ingredients present at 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.

ROUTES OF EXPOSURE

Dermal

3. COMPOSITION/INFORMATION ON INGREDIENTS**PRODUCT COMPOSITION****CAS-No.****WGT. %****A. HAZARDOUS**

Methyltriacetoxysilane	4253-34-3	1 - 5 %
Octamethylcyclotetrasiloxane	556-67-2	1 - 5 %

B. NON-HAZARDOUS

Dimethylpolysiloxane	70131-67-8	60 - 100 %
Treated Filler	68611-44-9	5 - 10 %
Siloxanes & Silicones, Dimethylpolymers w/Methylsilsesquioxanes	68554-67-6	5 - 10 %

4. FIRST AID MEASURES**INGESTION**

If swallowed, do NOT induce vomiting. Give a glass of water.

SKIN

To clean from skin, remove completely with a dry cloth or paper towel, before washing with detergent and water. If skin irritation occurs: Get medical advice/attention.

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11/07/2012**IS 808 - translucent
SILICONE INDUSTRIAL SEALANT****INHALATION**

If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

EYES

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

NOTE TO PHYSICIAN

Treatment is symptomatic and supportive.

5. FIRE-FIGHTING MEASURES**FLASH POINT:**

Not applicable

IGNITION TEMPERATURE:

No data available.

FLAMMABLE LIMITS LEL:

Not applicable

FLAMMABLE LIMITS UEL:

Not applicable

SENSITIVITY TO MECHANICAL IMPACT:

No

SENSITIVITY TO STATIC DISCHARGE

Sensitivity to static discharge is not expected.

EXTINGUISHING MEDIA

All standard extinguishing agents are suitable.

SPECIAL FIRE FIGHTING PROCEDURES

Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES**ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard. Wear proper protective equipment as specified in the protective equipment section.

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SILICONE INDUSTRIAL SEALANT****7. HANDLING AND STORAGE****PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE**

Product releases acetic acid during application and curing. Use only in well-ventilated areas. Avoid contact with skin and eyes. Remove contact lenses before using sealant. Do not handle lenses until all sealant has been cleaned from the finger and hands. May generate formaldehyde at temperatures greater than 150 C(300 F). See Section 8 of the MSDS for Personal Protective Equipment.

STORAGE

Keep out of the reach of children. Keep container tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**ENGINEERING CONTROLS**

Eye wash facilities and emergency shower must be available when handling this product.

RESPIRATORY PROTECTION

If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).

PROTECTIVE GLOVES

Chemical resistant gloves

EYE AND FACE PROTECTION

Safety glasses with side shields

OTHER PROTECTIVE EQUIPMENT

Wear suitable protective clothing and eye/face protection.

Exposure Guidelines

<u>Component</u>	<u>CAS-No.</u>	<u>Source</u>	<u>Value</u>
Octamethylcyclotetrasiloxane	556-67-2	Z_INTL_OEL, REL	5 ppm

Absence of values indicates none found

PEL - OSHA Permissible Exposure Limit; TLV - ACGIH Threshold Limit Value; TWA - Time Weighted Average; INTL REL - Internal Recommended Exposure Limit

OSHA revoked the Final Rule Limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338).

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SILICONE INDUSTRIAL SEALANT****9. PHYSICAL AND CHEMICAL PROPERTIES**

BOILING POINT (°C):	Not applicable
VAPOR PRESSURE (20 C) (MM HG):	Not applicable
VAPOR DENSITY (AIR=1):	Not applicable
FREEZING POINT:	Not applicable
PHYSICAL STATE:	Paste
ODOR:	Acetic acid.
Color:	Colorless
EVAPORATION RATE (BUTYL ACETATE=1):	< 1
SPECIFIC GRAVITY:	ca. 1.04
DENSITY:	ca. 1.04 g/cm ³
ACID / ALKALINITY (MEQ/G):	Not applicable
pH:	Not applicable
SOLUBILITY IN WATER (20 C):	Insoluble
SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):	Soluble in toluene
VOLATILE ORGANIC CONTENT:	1.5 %(m)
VOC EXCL. H₂O & EXEMPTS (G/L):	20 g/l

10. STABILITY AND REACTIVITY**STABILITY**

Stable

HAZARDOUS POLYMERIZATION.

Hazardous polymerisation does not occur.

HAZARDOUS THERMAL DECOMPOSITION / COMBUSTION PRODUCTS

Carbon dioxide; Acetic acid.; Silicon dioxide.; Formaldehyde.; This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive.

INCOMPATIBLE MATERIALS

None known.

CONDITIONS TO AVOID

None known.

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11/07/2012**IS 808 - translucent
SILICONE INDUSTRIAL SEALANT****11. TOXICOLOGICAL INFORMATION****ACUTE ORAL**

Remarks: No data available.

CARCINOGENICITY

The National Toxicology Program (NTP) classifies formaldehyde as "known to be a human carcinogen" with respect to nasopharyngeal cancer, sinonasal cancer and myeloid leukemia. The International Agency for Research on Cancer (IARC) classifies formaldehyde as "carcinogenic to humans". U.S. OSHA regulates formaldehyde as a potential human carcinogen. See the OSHA Formaldehyde Workplace Standard at 29 CFR 1920.1048 (the "OSHA Standard"). Safe handling and use instructions are provided in this MSDS and in the OSHA Standard. OSHA has identified 0.5 ppm, calculated as an eight-hour time-weighted average ("TWA") concentration, as the "Action Level". Please review and understand the guidance contained in this MSDS, and refer to the OSHA Standard for regulatory requirements that might be applicable to your operation and use. Many studies and other evaluations have been performed concerning formaldehyde's potential to cause cancer. To review some of these studies and for further information go to www.osha.gov; <http://monographs.iarc.fr>; <http://ntp-server.niehs.nih.gov>; <http://epa.gov>; <http://www.nap.edu> and other authoritative websites then search on formaldehyde.

ACUTE DERMAL

Remarks: No data available.

ACUTE INHALATION

Remarks: None known.

OTHER

Octamethylcyclotetrasiloxane

Ingestion: Rodents given large doses via oral gavages of Octamethylcyclotetrasiloxane (1600 mg/kg day, 14 days) developed increased liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appear normal) as well as hypertrophy (increased cell size).

Inhalation: In inhalation studies, laboratory rodents exposed to Octamethylcyclotetrasiloxane (300 ppm five days week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm) showed no toxic effects in rodents.

Range finding reproductive studies were conducted (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) with Octamethylcyclotetrasiloxane (D4). Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found.

Interim results from a two generation reproductive study in rats exposed to 500 and 700 ppm D4 (whole

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SILICONE INDUSTRIAL SEALANT**

body inhalation, 70 days prior to mating, through mating, gestation and lactation) resulted in a statistically significant decrease in live mean litter size as well as extended periods of off-spring delivery (dystocia). These results were not observed at the 70 and 300ppm dosing levels.

Preliminary results from an ongoing 24-month combined chronic/oncogenicity study in rats exposed to 10, 30, 150, or 700 ppm D4 showed test-article related effects in the kidney (male and female) and uterus of rats exposed for 12 to 24 months. These effects include increased kidney weight and severity of chronic nephropathy, increased uterine weight, increased incidence of endometrial cell hyperplasia, and an increased incidence of endometrial adenomas. All of these effects are limited to the 700 ppm exposure group.

These results have been shown to be rat-specific. Further studies are ongoing.

In developmental toxicity studies, rats and rabbits were exposed to Octamethylcyclotetrasiloxane at concentrations up to 700 ppm and 500 ppm respectively. No teratogenic effects (birth defects) were observed in either study.

SENSITIZATION

No data available.

SKIN IRRITATION.

No data available.

EYE IRRITATION

No data available.

MUTAGENICITY

No data available.

OTHER EFFECTS OF OVEREXPOSURE

This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive.

Acetic acid released during curing.

12. ECOLOGICAL INFORMATION**ECOTOXICITY**

No data available.


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**IS 808 - translucent
SILICONE INDUSTRIAL SEALANT**
DISTRIBUTION

No data available.

CHEMICAL FATE

No data available.

13. DISPOSAL CONSIDERATIONS
DISPOSAL METHODS

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION
Further Information:

This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

15. REGULATORY INFORMATION
Inventories

Australia Inventory of Chemical Substances (AICS)	y (positive listing)	
Canada DSL Inventory	q (quantity restricted)	
EU list of existing chemical substances	y (positive listing)	
Japan Inventory of Existing & New Chemical Substances (ENCS)	y (positive listing)	
China Inventory of Existing Chemical Substances	y (positive listing)	
Korea Existing Chemicals Inventory (KECI)	y (positive listing)	
Canada NDSL Inventory	n (Negative listing)	
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	y (positive listing)	
TSCA list	y (positive listing)	On TSCA Inventory
New Zealand Inventory of Chemicals	y (positive listing)	

For inventories that are marked as quantity restricted or special cases, please contact Momentive.


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**IS 808 - translucent
SILICONE INDUSTRIAL SEALANT**
US Regulatory Information
CERCLA
PRODUCT COMPOSITION

Chemical

CERCLA Reportable Quantity
SARA (311,312) HAZARD CLASS

Acute Health Hazard

CALIFORNIA PROPOSITION 65

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

Canadian Regulatory Information
WHMIS CLASSIFICATION

D2A - Very Toxic Material Causing Other Toxic Effects

D2B - Toxic Material Causing Other Toxic Effects

16. OTHER INFORMATION
OTHER

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

,C = ceiling limit	NEGL = negligible
EST = estimated	NF = none found
NA = not applicable	UNKN = unknown
NE = none established	REC = recommended
ND = none determined	V = recommended by vendor
SKN = skin	TS = trade secret
R = recommended	MST = mist
NT = not tested	STEL = short term exposure limit
ppm = parts per million	ppb = parts per billion
By-product= reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2).	

SAFETY DATA SHEET

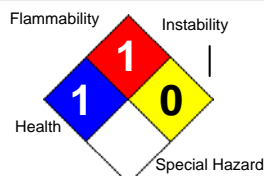
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HEALTH	*	2
FLAMMABILITY	1	
PHYSICAL	0	
PPE	X	



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1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 2465.2

Product Name: Goof Off Heavy Duty 3% VOC

Manufacturer Information

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346

Information: W.M. Barr Customer Service (800)398-3892

Web site address: www.wmbarr.com

Preparer Name: W.M. Barr EHS Dept (901)775-0100

Intended Use: Multi-Purpose Remover for tar, ink, paint, adhesive, etc.

Synonyms
FG659, FG659B, FG659BWS, FG701, FG701CS, FG708, FG720, FG748, FG748C, FG659W, FG659BLWS, FG659MT, FG659S, FG732, FG780

2. HAZARDS IDENTIFICATION

GHS Classification	Placard	Key word	GHS hazard phrase
Acute Toxicity: Inhalation, Category 4	Exclamation point	Warning	Harmful if inhaled
Acute Toxicity: Oral, Category 4	Exclamation point	Warning	Harmful if swallowed
Acute Toxicity: Skin, Category 4	Exclamation point	Warning	Harmful in contact with skin
Serious Eye Damage/Eye Irritation, Category 2A	Exclamation point	Warning	Causes serious eye irritation

GHS Hazard Phrases

H332: Harmful if inhaled.
H302: Harmful if swallowed.
H312: Harmful in contact with skin.
H319: Causes serious eye irritation.

GHS Precaution Phrases

Avoid breathing mist/vapors/spray. Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.
P362+364: Take off contaminated clothing and wash it before reuse.

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GHS Response Phrases

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330: Rinse mouth.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P321: Specific treatment (see ... on this label) ... reference to supplemental first aid instruction - if immediate administration of antidote is required.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313: If eye irritation persists, get medical advice/attention.

GHS Storage and Disposal Phrases

P501: Dispose of contents/container to ... (in accordance with local/regional/national/international regulation).

Potential Health Effects (Acute and Chronic)

This material has not been tested as a whole for health effects. Effects listed are those of the individually listed ingredients in this msds.

Eyes:

May cause severe irritation. May cause moderate corneal injury. Effects may include discomfort or pain, and redness. Effects may be slow to heal.

Skin:

Brief contact may cause slight skin irritation with local redness. Repeated exposure may cause irritation, even a burn. May cause more severe response on covered skin (under clothing, gloves).

Inhalation:

When used as directed, the consumer is not expected to experience any exposure effects. Excessive exposure may cause irritation to the upper respiratory tract. Symptoms may include a headache, dizziness, or nausea.

Ingestion:

Moderately toxic if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury. However, swallowing larger amounts may cause injury.

Target Organs: Blood (Hemolysis), Kidneys, Liver, Eyes, Skin, Central Nervous System.

Primary Routes of Entry: Eyes, Skin, Inhalation, Ingestion

Medical Conditions Generally Aggravated By Exposure

None known.

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components (Chemical Name)	CAS #	Concentration	RTECS #
1. Ethanol, 2-Butoxy- {Ethylene glycol n-butyl ether, (a glycol ether)}	111-76-2	1.0 -5.0 %	KJ8575000
2. Benzenemethanol {Benzyl alcohol}	100-51-6	5.0 -10.0 %	DN3150000
3. Diethylene glycol monobutyl ether {2-(2-Butoxyethoxy)ethanol {(a glycol ether)}	112-34-5	1.0 -5.0 %	KJ9100000

Hazardous Components (Chemical Name)	CAS #	Concentration	RTECS #
4. Propylene glycol phenyl ether {(not 313)}	770-35-4	1.0 -5.0 %	UB8886500

4. FIRST AID MEASURES

Emergency and First Aid Procedures

Skin:

Remove contaminated clothing. Immediately wash skin thoroughly with large amounts of water and mild soap, if available. Seek medical attention if irritation develops or persists.

Eyes:

Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes. Seek medical attention.

Inhalation:

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

Ingestion:

If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Signs and Symptoms Of Exposure

See Potential Health Effects.

5. FIRE FIGHTING MEASURES

Flammability Classification: Not flammable or combustible

Flash Pt: > 200 F Method Used: Setaflash Closed Cup (Rapid Setaflash)

Explosive Limits: LEL: none UEL: none

Autoignition Pt: No data available.

Fire Fighting Instructions

Material is not flammable or combustible. No special fire fighting instructions required.

Flammable Properties and Hazards

No data available.

Hazardous Combustion Products

Material should not burn. Combustion product will be from surrounding materials involved in fire.

Suitable Extinguishing Media

Non-combustible liquid - use extinguishing media for underlying cause of fire.

Unsuitable Extinguishing Media

None known.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled

Prevent entry into waterways, sewers, or confined areas. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to compatible containers for proper disposal. For large spills, dike ahead of the spill.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling

Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. A source of clean water should be kept in the immediate work area for flushing of the eyes and skin.

Follow all MSDS/label precautions even after container is emptied because they may retain product residues.

Precautions To Be Taken in Storing

Keep containers closed when not in use. Store in a cool, dry place, out of direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Ethanol, 2-Butoxy- {Ethylene glycol n-butyl ether, (a glycol ether)}	111-76-2	50 ppm	20 ppm	No data.
2. Benzenemethanol {Benzyl alcohol}	100-51-6	No data.	No data.	No data.
3. Diethylene glycol monobutyl ether {2-(2-Butoxyethoxy)ethanol {(a glycol ether)}	112-34-5	No data.	No data.	No data.
4. Propylene glycol phenyl ether {(not 313)}	770-35-4	No data.	No data.	No data.

Respiratory Equipment (Specify Type)

When used by the consumer following directions for use and with adequate ventilation, respiratory protection is not expected to be needed.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

If the work area is not properly ventilated to keep airborne levels below their exposure limits, you must use a properly fitted and maintained NIOSH approved respirator for organic vapors. A dust mask does not provide protection against vapors.

Eye Protection

Where contact with the eyes or face is likely from spraying or splashing, safety glasses, a faceshield or chemical goggles should be worn to prevent eye contact.

Protective Gloves

When used as directed, protective gloves should not be required. For prolonged or repeated contact, wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as natural rubber or nitrile rubber provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information.

Other Protective Clothing

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.)

Ventilation is normally not required when handling or using this product to keep exposure to airborne contaminants below the exposure limit.

Good general ventilation should be sufficient to control airborne levels.

Work/Hygienic/Maintenance Practices

Wash hands thoroughly after use and before eating, drinking, or smoking. Do not eat, drink, or smoke in the work area. Discard any clothing or other protective equipment that cannot be decontaminated.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[] Gas [X] Liquid [] Solid
Melting Point:	32 F
Boiling Point:	210 F
Autoignition Pt:	No data.
Flash Pt:	> 200 F Method Used: Setaflash Closed Cup (Rapid Setaflash)
Explosive Limits:	LEL: none UEL: none

Specific Gravity (Water = 1): 0.997
Density: 8.3 LB/GL
Vapor Pressure (vs. Air or mm Hg): < 0.1 MM HG
Vapor Density (vs. Air = 1): > 1
Evaporation Rate: < 1
Solubility in Water: Complete
Percent Volatile: ~ 87 % by weight.
VOC / Volume: 3.0 % WT
pH: 8.3 - 8.7

Appearance and Odor

Slight yellow to clear, transparent, almond-like odor.

10. STABILITY AND REACTIVITY

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability

None known.

Incompatibility - Materials To Avoid

Strong oxidizing agents, isocyanates, acetaldehyde, aluminum alkyl compounds and strong mineral acids.

Hazardous Decomposition Or Byproducts

Carbon monoxide, carbon dioxide

Possibility of Hazardous Reactions: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Reactions

None known.

11. TOXICOLOGICAL INFORMATION**Toxicological Information**

Material has not been tested as a whole. Data is for individual ingredients.

CAS# 111-76-2:

Mutagenicity:, Mutation test: DNA damage., Route of Application: Unreported., Mouse, 3150. mg/kg.

Result:

Effects on Newborn: Live birth index (# fetuses per litter; measured after birth).

Effects on Newborn: Growth statistics (e.g., reduced weight gain).

- Toxicologist., Soc. of Toxicology, Inc., 475 Wolf Ledge Parkway, Akron, OH 44311, Vol/p/yr: 66,306, 2002

Acute toxicity, LD50, Oral, Rat, 470.0 MG/KG.

Result:

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

- Dow Chemical Company Reports., Dow Chemical USA, Health and Environment Research, Toxicology Research Lab, Midland, MI 48640, Vol/p/yr: MSD-46,

Acute toxicity, LC50, Inhalation, Rat, 450.0 PPM, 4 H.

Result:

Behavioral: Ataxia.

Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

- Toxicology and Applied Pharmacology, Academic Press, Inc., 1 E. First St., Duluth, MN 55802, Vol/p/yr: 68,405, 1983

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Standard Draize Test, Eyes, Species: Rabbit, 100.0 MG, Severe.

Result:

Effects on Newborn: Apgar score (human only).

Effects on Newborn: Other neonatal measures or effects.

Effects on Newborn: Drug dependency.

- American Journal of Ophthalmology., Ophthalmic Pub. Co., 435 N. Michigan Ave., Suite 1415, Chicago, IL 60611, Vol/p/yr: 29,1363, 1946

CAS# 100-51-6:

Mutagenicity:, Mutation test: DNA damage., Rat, 10.00 MMOL/L, Cell Type: liver..

Result:

Behavioral: Fluid intake.

Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

- Environmental and Molecular Mutagenesis., Alan R. Liss, Inc., 41 E. 11th St, New York, NY 10003, Vol/p/yr: 24,181, 1994

Mutagenicity:, Mutation test: Mutation in microorganisms., Mouse, 250.0 MG/L, Cell Type: lymphocyte..

Result:

Blood: Changes in erythrocyte (RBC) count.

- National Toxicology Program Technical Report Series., Vol/p/yr: NTP-TR-343, 1989

Mutagenicity:, Mutation test: Cytogenetic analysis., Species: Hamster, 4.000 UG/L, Cell Type: ovary..

Result:

Kidney, Ureter, Bladder: Hematuria.

Blood: Other changes.

Related to Chronic Data - death.

- National Toxicology Program Technical Report Series., Vol/p/yr: NTP-TR-343, 1989

Acute toxicity, LD50, Oral, Rat, 1230. MG/KG.

Result:

Behavioral: Somnolence (general depressed activity).

Behavioral: Excitement.

Behavioral: Coma.

- Food and Cosmetics Toxicology., For publisher information, see FCTOD7, London United Kingdom, Vol/p/yr: 2,327, 1964

Standard Draize Test, Skin, Human, 16.00 MG, 48 H, Mild.

Result:

Blood: Other hemolysis with or without anemia.

Blood: Other changes.

Biochemical: Metabolism (Intermediary): Other proteins.

- Cosmetics and Toiletries., Allured Pub. Corp., POB 318, Wheaton, IL 60189, Vol/p/yr: 94(8),41, 1979

Standard Draize Test, Skin, Species: Rabbit, 100.0 MG, 24 H, Moderate.

Result:

Specific Developmental Abnormalities: Musculoskeletal system.

Specific Developmental Abnormalities: Other developmental abnormalities.

- Cosmetics and Toiletries., Allured Pub. Corp., POB 318, Wheaton, IL 60189, Vol/p/yr: 94(8),41, 1979

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CAS# 112-34-5:

Acute toxicity, LD50, Oral, Rat, 5660. MG/KG.

Result:

Brain and Coverings: Other degenerative changes.

Biochemical:Metabolism (intermediary): Other.

- Dow Chemical Company Reports., Dow Chemical USA, Health and Environment Research, Toxicology Research Lab, Midland, MI 48640, Vol/p/yr: MSD-41,

Standard Draize Test, Eyes, Species: Rabbit, 20.00 MG, Severe.

Result:

Behavioral: Anticonvulsant.

- American Journal of Ophthalmology., Ophthalmic Pub. Co., 435 N. Michigan Ave., Suite 1415, Chicago, IL 60611, Vol/p/yr: 29,1363, 1946

Chronic Toxicological Effects

Material has not been tested as a whole. Data is for individual ingredients.

Carcinogenicity/Other Information

IARC 2B - Possibly Carcinogenic to Humans

ACGIH A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Ethanol, 2-Butoxy- {Ethylene glycol n-butyl ether, (a glycol ether)}	111-76-2	n.a.	3	A3	n.a.
2. Benzenemethanol {Benzyl alcohol}	100-51-6	n.a.	n.a.	n.a.	n.a.
3. Diethylene glycol monobutyl ether {2-(2-Butoxyethoxy)ethanol {(a glycol ether)}	112-34-5	n.a.	n.a.	n.a.	n.a.
4. Propylene glycol phenyl ether {(not 313)}	770-35-4	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

General Ecological Information

Not determined for this product as a whole.

Results of PBT and vPvB assessment

CAS# 111-76-2:

LC50, Water Flea (Daphnia magna), 1720. MG/L, 24 H, Intoxication,, Water temperature: 20 C - 22 C C, pH: 7.70, Hardness: 16.00 dH.

Result:

Age Effects.

- Results of the Damaging Effect of Water Pollutants on Daphnia magna (Befunde der Schadwirkung Wassergefahrdender Stoffe Gegen Daphnia magna), Bringmann, G., and R. Kuhn, 1977

CAS# 100-51-6:

LC50, Fathead Minnow (Pimephales promelas), juvenile(s), 770000. UG/L, 1 H, Mortality, Water temperature: 18 C - 22 C C.

Result:

Sex Effects.

- Acute Toxicity of Selected Organic Compounds to Fathead Minnows, Mattson, V.R., J.W. Arthur, and C.T. Walbridge, 1976

LC50, Bluegill (Lepomis macrochirus), 10000. UG/L, 96 H, Mortality, Water temperature: 23 C C, pH: 7.90,

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Hardness: 55.00 MG/L.

Result:

Age Effects.

- The Acute Toxicity of 47 Industrial Chemicals to Fresh and Saltwater Fishes, Dawson, G.W., A.L. Jennings, D. Drozdowski, and E. Rider, 1977

CAS# 112-34-5:

LC50, Bluegill (*Lepomis macrochirus*), 1300000. UG/L, 96 H, Mortality, Water temperature: 23 C C, pH: 7.90,

Hardness: 55.00 MG/L.

Result:

Abnormal development.

- The Acute Toxicity of 47 Industrial Chemicals to Fresh and Saltwater Fishes, Dawson, G.W., A.L. Jennings, D. Drozdowski, and E. Rider, 1977

LC50, Water Flea (*Daphnia magna*), 2850. MG/L, 24 H, Intoxication,, Water temperature: 20 C - 22 C C, pH: 7.70, Hardness: 16.00 dH.

Result:

Sex Effects.

- Results of the Damaging Effect of Water Pollutants on *Daphnia magna* (Befunde der Schadwirkung Wassergefährdender Stoffe Gegen *Daphnia magna*), Bringmann, G., and R. Kuhn, 1977

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method

Dispose of in accordance with all applicable local, state, and federal regulations. Do not dump into sewers or allow to enter waterways.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not regulated by D.O.T.

Additional Transport Information

The shipper/supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

15. REGULATORY INFORMATION

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Ethanol, 2-Butoxy- {Ethylene glycol n-butyl ether, (a glycol ether)}	111-76-2	No	No	Yes-Cat. N230	No
2. Benzenemethanol {Benzyl alcohol}	100-51-6	No	No	No	No
3. Diethylene glycol monobutyl ether {2-(2-Butoxyethoxy)ethanol {(a glycol ether)}}	112-34-5	No	No	Yes-Cat. N230	No
4. Propylene glycol phenyl ether {(not 313)}	770-35-4	No	No	No	No

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Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Ethanol, 2-Butoxy- {Ethylene glycol n-butyl ether, (a glycol ether)}	111-76-2	HAP	No	Inventory	No
2. Benzenemethanol {Benzyl alcohol}	100-51-6	No	No	Inventory	No
3. Diethylene glycol monobutyl ether {2-(2-Butoxyethoxy)ethanol {(a glycol ether)}	112-34-5	HAP	No	Inventory, 4 Test	No
4. Propylene glycol phenyl ether {(not 313)}	770-35-4	No	No	Inventory, 8A PAIR, 8D TERM	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302:	EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
Sec.304:	EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
Sec.313:	EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
Sec.110:	EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

Inventory:	Chemical Listed in the TSCA Inventory.
5A(2):	Chemical Subject to Significant New Rules (SNURS)
6A:	Commercial Chemical Control Rules
8A:	Toxic Substances Subject To Information Rules on Production
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations
12(b):	Notice of Export

Other Important Lists:

CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65:	California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- [X] Yes [] No Acute (immediate) Health Hazard
 [X] Yes [] No Chronic (delayed) Health Hazard
 [] Yes [X] No Fire Hazard
 [] Yes [X] No Sudden Release of Pressure Hazard
 [] Yes [X] No Reactive Hazard

16. OTHER INFORMATION**Company Policy or Disclaimer**

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

Revision Date: 11/25/2013

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required

MATERIAL SAFETY DATA SHEET

Share Corporation
P.O. Box 245013
Milwaukee, WI 53224



GENERAL INFORMATION NUMBER: (414) 355-4000
EMERGENCY TELEPHONE NUMBER: (800) 776-7192
CHEMTREC: (800) 424-9300

REVISION DATE: April 9, 2002
DATE OF ISSUE: May 2, 2002

I - Product Identification

Starting Fluid

PRODUCT CODE: 8550

CHEMICAL FORMULATION: Pressurized diethyl ether based engine starter.

NFPA HAZARD IDENTIFICATION SYSTEM: **HEALTH: 2** **FLAMMABILITY: 4** **REACTIVITY: 1**
HAZARD RATING: 4 - Extreme; 3 - High; 2 - Moderate; 1 - Slight; 0 - Insignificant

II - Hazardous Ingredients

Values reported as TWA unless noted.

<u>SUBSTANCE</u>	<u>APPROX %</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>EPA 40 CFR:</u>			<u>CAS #</u>
				<u>302</u>	<u>355</u>	<u>372</u>	
Diethyl Ether	40.0-50.0	400 ppm	400 ppm	Y	N	N	60-29-7
Heptane, related light hydrocarbons	40.0-50.0	400 ppm	400 ppm	N	N	N	142-82-5
Mineral Oil, severely hydrotreated	< 1.0	500 ppm	N/E	N	N	N	64742-53-6
Carbon Dioxide	4.00-7.00	10,000 ppm	5000 ppm	N	N	N	124-38-9

Key: **PEL:** Permissible Exposure Limit **TLV:** Threshold Limit Value **C:** Ceiling level **STEL:** Short Term Exposure Limit
N/A: Not Applicable **N/D:** Not Determined **N/E:** Not Established **Y:** Yes **N:** No
302: CERCLA List of Hazardous Substances and Reportable Quantities (40 CFR 302.4).
355: SARA TITLE III / List of Extremely Hazardous Substances for Emergency Planning and Notification (40 CFR 355).
372: SARA TITLE III / List of Toxic Chemicals subject to Release Reporting (Community Right to Know) (40 CFR 372).

III - Physical Data

BOILING POINT (°F): 94, for Diethyl ether **SPECIFIC GRAVITY (WATER = 1):** 0.70
VAPOR PRESSURE (mm Hg): N/D **VOC CONTENT (% by weight):** 85.0 – 95.0
VAPOR DENSITY (AIR = 1): 2.5 **EVAPORATION RATE (WATER = 1):** > 1.0
SOLUBILITY IN WATER: Slight **pH:** N/A
APPEARANCE AND ODOR: Pale yellow to clear liquid, strong ethereal odor.

IV - Fire and Explosion Hazard Data

FLASH POINT (°F): < -56 (TEST METHOD): T.C.C. **NFPA 30B Rating:** 3
FLAMMABLE LIMITS IN AIR (VOLUME %) **UPPER:** 48.0 **LOWER:** 1.8
EXTINGUISHING MEDIA: Foam, carbon dioxide, dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES: Avoid possible accumulations of vapors at floor level, as vapor is heavier than air. Cool fire exposed containers with water fog. Firefighters should be equipped with full protective gear including self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARD: Contents under pressure! Exposure to temperatures above 120° F may cause bursting. Extremely flammable.

V - Reactivity Data

STABILITY: Unstable explosive peroxides may be formed and concentrate by evaporation to hazardous levels. This process is favored by prolonged storage with exposure to air and light. Product is generally stable in sealed metal containers.

INCOMPATIBILITY: Strong acids and oxidizers.

CONDITIONS TO AVOID: Excess heat, open flame sparks.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may produce oxides of carbon.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: None

VI - Health Hazard Data

ROUTES OF ENTRY **INHALATION:** X **EYE CONTACT:** **SKIN CONTACT:** X **INGESTION:**
INGREDIENTS THAT ARE CONSIDERED BY OSHA, NTP, IARC TO BE SUSPECTED HUMAN CARCINOGENS: None

EFFECTS OF OVEREXPOSURE

IF IN EYES: Irritation.

IF ON SKIN: Irritation, defatting and dermatitis with prolonged or repeated exposure.

IF SWALLOWED: Gastrointestinal irritation, nausea, cramps, diarrhea. May be harmful or fatal if swallowed.

IF INHALED: : Dizziness, strong anesthesia, intoxication, loss of consciousness.

EMERGENCY AND FIRST AID PROCEDURES

IF IN EYES: Flush eyes and under eyelids with plenty of cool water for at least 15 minutes. If irritation persists, obtain medical attention.

IF ON SKIN: Remove contaminated clothing and wash with soap and water.

IF SWALLOWED: Contact physician or poison control center immediately. Do not induce vomiting. Proper treatment is dependent upon condition of patient and amount ingested.

IF INHALED: Remove person to fresh air. If breathing has stopped, administer artificial respiration. Obtain medical attention.

VII - Spill or Leak Protection

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Ventilate area and remove all sources of ignition. CO₂ may be used as a precautionary blanket. Soak up material with inert absorbent material and place in a labeled closed container for disposal.

WASTE DISPOSAL METHOD: Consult local environmental authorities. Dispose of cans in non-incinerated trash only.

VIII - Special Protection Information

RESPIRATORY PROTECTION: Use with adequate ventilation. Do not breathe vapors or mists. If recommended Exposure Limits are exceeded, wear a NIOSH approved respirator, following manufacturer's recommendations.

VENTILATION

LOCAL: Recommended

MECHANICAL: Not required

PROTECTIVE GLOVES: Chemical resistant.

EYE PROTECTION: Safety glasses or goggles.

OTHER PROTECTIVE EQUIPMENT: None.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store in a cool, dry place away from heat or open flame.

OTHER PRECAUTIONS: Keep out of reach of children. Do not puncture or incinerate container.

IX - Transportation Information (ground transportation only)

DOT PROPER SHIPPING NAME: Consumer Commodity

DOT CLASS: ORM-D

DOT ID NUMBER: None

DOT PACKING GROUP: None

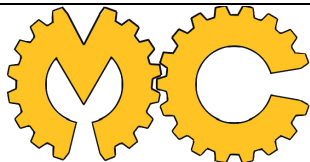
The shipping information listed above applies only to non-bulk (< 119 gallons) containers of this product. This product may have more than one proper shipping name depending on packaging, product properties, & mode of shipment. If any alteration of packaging, product, or mode of transportation is further intended, different shipping names and labeling may apply.

REVISION DATE: April 9, 2002

Prepared by: PMR

DATE OF ISSUE: May 2, 2002

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METALCOTE®

MATERIAL SAFETY DATA SHEET

THREAD LOCK BREAKAWAY STRENGTH

1. PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME	THREAD LOCK BREAKAWAY STRENGTH
Product number	MC9S-3263
PRODUCT USE	Anaerobic Adhesive/Sealant
MANUFACTURER	Chemtool Incorporated P.O. Box 538 8200 Ridgefield Road Crystal Lake, IL 60039-0538 Tel: (309) 636 - 1642 Fax: (309) 675 - 1876
EMERGENCY TELEPHONE	INFOTRAC In USA and Canada - (800) 535-5053 Outside USA and Canada - +01-352-323-3500
*Date of last issue	2010-06-22

2. COMPOSITION AND INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS No.	WEIGHT
2-PROPENOIC ACID, 2-METHYL-, 1,2-ETHANEDIYLBIS(OXY-2,1-ETHANEDIYL) ESTER	109-16-0	30-60 %
*SACCHARIN	81-07-2	1-5 %
*SILICA (ALSO SILICA, AMORPHOUS, FUMED, CRYSTALLINE FREE, CAS# 112945-52-5)	7631-86-9	1-5 %
POLY(OXY-1,2-ETHANEDIYL), .ALPHA. -(1-OXO-9-OCTADECENYL)- .OMEGA. -HYDROXY- (Z)-	9004-96-0	1-5 %
*CUMENE HYDROPEROXIDE	80-15-9	0.1-5 %

* This chemical(s) is hazardous according to OSHA/WHIMIS criteria

COMPOSITION COMMENTS	Refer to section eight for exposure limits on ingredients. Chemical ingredients not regulated by OSHA or SARA are treated confidentially.
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3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

*	Irritating to eyes and skin.
SENSITIZATION	No known information.
CARCINOGENICITY	OSHA: Not regulated. NTP: Not listed. IARC: Not listed as a Group 1, 2A, or 2B agent.
TERATOGENICITY	No known information.
HEALTH WARNINGS	INHALATION. Can irritate airways and lungs. EYE CONTACT. Irritating. INGESTION. Can cause discomfort. SKIN CONTACT. Irritating. Prolonged contact may cause dermatitis in sensitive individuals.
ROUTE OF ENTRY	Skin and/or eye contact. Ingestion. Inhalation.
*TARGET ORGANS	Eyes. Skin. Mucous membranes.

4. FIRST AID MEASURES

INHALATION	Remove victim immediately from source of exposure. Get medical attention if any discomfort continues. For breathing difficulties oxygen may be necessary. If breathing stops, provide artificial respiration.
EYES	Important! Immediately rinse with water for at least 15 minutes. Get medical attention if any discomfort continues.
SKIN	Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
*INGESTION	Do not give victim anything to drink if he is unconscious. If vomiting occurs, lean forward to reduce the risk of aspiration.

5. FIRE FIGHTING MEASURES

FLASH POINT (°C)	> 96 (205 F) TCC (Tag closed cup).
FLAMMABILITY LIMIT - LOWER(%)	N/D
FLAMMABILITY LIMIT - UPPER(%)	N/D
EXTINGUISHING MEDIA	Use: Carbon dioxide (CO ₂). Foam. Dry chemicals.
SPECIAL FIRE FIGHTING PROCEDURES	Use water to keep fire exposed containers cool and disperse vapors. Water spray may be used to flush spills away from exposures and dilute spills to non-flammable mixtures. Avoid water in straight hose stream; will scatter and spread fire. Keep run-off water out of sewers and water sources. Dike for water control.
UNUSUAL FIRE & EXPLOSION HAZARDS	Contains <1% organic peroxides.
HAZARDOUS COMBUSTION PRODUCTS	Irritating gases/vapors/fumes. Oxides of: Carbon. Nitrogen.

6. ACCIDENTAL RELEASE MEASURES

SPILL CLEAN-UP PROCEDURES Carefully collect spilled material in closed containers and leave for disposal according to local regulations. Provide good ventilation. Use appropriate protective clothing. Rinse area with water. Do not let washing down water contaminate ponds or waterways.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS Keep away from heat, sparks and open flame. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Containers to be kept tightly closed. Avoid spilling, skin and eye contact. Eye wash and emergency shower must be available at the work place.

***STORAGE PRECAUTIONS** Keep away from heat, sparks and open flame. Store separated from: Oxidizing materials. Reducing materials.

STORAGE CRITERIA Chemical storage.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENT	STD	TWA	STEL	TWA	STEL
SILICA (ALSO SILICA, AMORPHOUS, FUMED, CRYSTALLINE FREE, CAS# 112945-52-5)	OSHA			20 mppcf	(80 mg/m3/%SiO ₂)
	ACGIH			10 mg/m3	
	NIOSH	6 mg/m3			

PROTECTIVE EQUIPMENT



ENGINEERING CONTROLS Use engineering controls to reduce air contamination to permissible exposure level.

VENTILATION No specific ventilation requirements noted, but forced ventilation may still be required if air contamination exceeds acceptable level.

RESPIRATORS No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.

PROTECTIVE GLOVES For prolonged or repeated skin contact use suitable protective gloves.

EYE PROTECTION Wear splash-proof eye goggles to prevent any possibility of eye contact.

PROTECTIVE CLOTHING Wear appropriate clothing to prevent repeated or prolonged skin contact.

HYGIENIC WORK PRACTICES Wash at the end of each work shift and before eating, smoking and using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE	Liquid.		
COLOR	Blue.		
ODOR	Mild (or faint).		
SOLUBILITY DESCRIPTION	Slightly soluble in water.		
BOILING POINT (°C, range)	> 149 (300°F)	Pressure	760mmHg
DENSITY	1.1	Temperature (°C)	20 (68°F)
VAPOR PRESSURE	< 5 mmHg	Temperature (°C)	25 (77°F)
*VOLATILE BY VOL. (%)	<0.1%		

10. STABILITY AND REACTIVITY

STABILITY	Normally stable.
CONDITIONS TO AVOID	Avoid contact with acids and oxidizing substances.
HAZARDOUS POLYMERIZATION	Will not polymerize.
HAZARDOUS DECOMPOSITION PRODUCTS	Oxides of: Carbon. Nitrogen.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION	No experimental toxicological data on the preparation as such is available.
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COMPONENT	2-PROPENOIC ACID, 2-METHYL-, 1,2-ETHANEDIYLBIS(OXY-2,1-ETHANEDIYL) ESTER
TOXICOLOGICAL DATA	Irritating effects. Open irritation test 24 hours. Skin. Guinea pig. Not a skin irritant DuPont Haskell Lab Rpt No. 48-69 MR No. 1162 3/16/1969 Sensitization. Magnusson-Kligman Skin. Guinea pig. Not a skin sensitizer DuPont Haskell Lab Rpt No. 48-69 MR No. 1162 3/16/1969
TOXIC DOSE - LD 50	No Information Available (NIA).
TOXIC CONC. - LC 50	No Information Available (NIA).
SENSITIZATION	Guinea pig sensitization: not a sensitizer
COMPONENT	SACCHARIN
TOXIC DOSE - LD 50	17000 mg/kg (oral-mus)
COMPONENT	SILICA (ALSO SILICA, AMORPHOUS, FUMED, CRYSTALLINE FREE, CAS# 112945-52-5)
TOXICOLOGICAL DATA	Irritating effects. Draize 24 hours. Eye. 0.7/110 Irritating effects. Draize Skin. 0/8
TOXIC DOSE - LD 50	> 5000 mg/kg (oral rat)
TOXIC DOSE - LD 50 SKIN	> 2000 mg/kg (skn rbt)

TOXIC CONC. - LC 50	N/A.
CARCINOGENICITY	NTP: Not listed. IARC-3 designation: Not classifiable as to Carcinogenicity to Humans.
COMPONENT	POLY(OXY-1,2-ETHANEDIYL), .ALPHA. -(1-OXO-9-OCTADECENYL)-.OMEGA. -HYDROXY- (Z)-
COMPONENT	CUMENE HYDROPEROXIDE
TOXIC DOSE - LD 50	382 mg/kg (oral rat)
TOXIC DOSE - LD 50 SKIN	500 mg/kg (skn rat)
TOXIC CONC. - LC 50	220 ppm/4h (inh-rat)

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION	No data on possible environmental effects have been found.
COMPONENT	2-PROPENOIC ACID, 2-METHYL-, 1,2-ETHANEDIYLBIS(OXY-2,1-ETHANEDIYL) ESTER
COMPONENT	SACCHARIN
COMPONENT	SILICA (ALSO SILICA, AMORPHOUS, FUMED, CRYSTALLINE FREE, CAS# 112945-52-5)
COMPONENT	POLY(OXY-1,2-ETHANEDIYL), .ALPHA. -(1-OXO-9-OCTADECENYL)-.OMEGA. -HYDROXY- (Z)-
COMPONENT	CUMENE HYDROPEROXIDE

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS	Spilled material, unused contents and empty containers must be disposed of in accordance with local, state and federal regulations.
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14. TRANSPORT INFORMATION

DOT HAZARD CLASS	Not regulated.
SEA TRANSPORT NOTES	Not regulated per IMDG.
AIR TRANSPORT NOTES	Not regulated per IATA.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

COMPONENT	SARA 302	CERCLA	SARA 313
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2-PROPENOIC ACID, 2-METHYL-, 1,2-ETHANEDIYLBIS(OXY-2,1-ETHANEDIYL) ESTER	No	No	No
SACCHARIN	No	100 lbs	No
SILICA (ALSO SILICA, AMORPHOUS, FUMED, CRYSTALLINE FREE, CAS# 112945-52-5)	No	No	No
POLY(OXY-1,2-ETHANEDIYL), .ALPHA. -(1-OXO-9-OCTADECENYL)- .OMEGA. -HYDROXY- (Z)-	No	No	No

CLEAN AIR ACT**US STATE REGULATIONS**

COMPONENT	CA	MA	FL	MN	NJ	PA	RI
SACCHARIN	No	Yes			Yes	Yes	
SILICA (ALSO SILICA, AMORPHOUS, FUMED, CRYSTALLINE FREE, CAS# 112945-52-5)		Yes	Yes	Yes		HS	

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.

LABEL(S) FOR SUPPLY**CONTROLLED PRODUCT CLASSIFICATION**

D2B - Irritating and/or Chronically Toxic Materials

***Risk phrases**

R-36/37/38 Irritating to eyes, respiratory system and skin.

GLOBAL INVENTORIES

COMPONENT	CAN	US	EU	AUS	JAP	KOR	PHLP	CHN
2-PROPENOIC ACID, 2-METHYL-, 1,2-ETHANEDIYLBIS(OXY-2,1-ETHANEDIYL) ESTER	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes
SILICA (ALSO SILICA, AMORPHOUS, FUMED, CRYSTALLINE FREE, CAS# 112945-52-5)	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes
POLY(OXY-1,2-ETHANEDIYL), .ALPHA. -(1-OXO-9-OCTADECENYL)- .OMEGA. -HYDROXY- (Z)-	DSL	Yes	Polymer	No	No	No	No	No
CUMENE HYDROPEROXIDE	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	No
SACCHARIN	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	No

***USA (TSCA)**

All components in this product are listed on the US Toxic Substances Control Act (TSCA) Inventory or are exempt from TSCA Inventory requirements.

***CANADA (DSL)**

All components in this product are listed on the Canada Domestic Substances List (DSL) or are exempt from DSL requirements.

*EUROPE (EINECS/ELINCS/NLP)	All components in this product are listed on the European Inventory of New and Existing Chemical Substances (EINECS), the European List of Notified Chemical Substances (ELINCS), or the No Longer Polymers (NLP) list, or are exempt from EU listing requirements.
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16. OTHER INFORMATION

NFPA-HMIS HAZARD RATING

HEALTH	Irritation, minor residual injury (1) - HMIS/NFPA
FLAMMABILITY	Burns only if pre-heated (1) - HMIS/NFPA
REACTIVITY	Normally Stable (0) - HMIS/NFPA
*NPCA HMIS HAZARD INDEX	Slight: Slightly Toxic - May cause slight irritation (1).
*PERSONAL PROTECTION INDEX	B - Safety Eyewear and Gloves
*NPCA HMIS FLAMMABILITY INDEX	Burns only if pre-heated (1).
*Tariff Code (Schedule B)	3506.10.0000 Products suitable for use as glues or adhesives, put up for retail sale as glues or adhesives, not exceeding a net weight of 1 kg (2.2 lbs.)
*REVISION COMMENTS	Section 2: Ingredients Section 3: Health Hazards Section 15: WHMIS
*PREPARED BY	James McBriarty Maria Maka
*REVISION No.	3
*Replacement of MSDS generated	2008-11-06
*DATE	2010-06-22
DISCLAIMER	While the information and recommendations set forth herein are believed to be accurate as of the date thereof, the company makes no warranty with respect thereto and disclaims all liability from reliance therein.
* Information revised since previous MSDS version	
PRINTING DATE:	2010-06-22